

The Journal of General Practice

MEDICAL TIMES



New Developments in Therapy for 1949
Recent Advances in Tropical Medicine
Cancer — Rectum and Sigmoid Areas
Stibicetol in Pregnancy Complications
Abnormal Uterine Bleeding—Treatment
Factors of Sperm Motility

Medical Book Notes
Contemporary Progress

Editorials
Contents Pages 60, 70

Vol. 78

February 1950

No. 2



announcing
a new
vasodilator

A new peripheral vasodilator, Roniacol Tartrate offers clinically valuable advantages. Its action is more prolonged than that of nicotinic acid yet there is less likelihood of severe flushing or side reactions. Roniacol Tartrate does not produce tolerance. It can therefore be given for long periods of time—a significant factor in the treatment of peripheral vascular diseases. Available in scored 50-mg tablets.

HOFFMANN-LA ROCHE INC • NUTLEY 10 • N. J.

Roniacol Tartrate
tablets

brand of beta-pyridyl carbinol tartrate

'Roche'

T.M.—Roniacol



About half of the skin lesions in infantile eczema are due to scratching by the child himself.

To protect the involved areas from such trauma, Hill* recommends:

1. Use of the proper salve or lotion.
2. Covering with soft cotton cloth.
3. Application of a 2" ACE® BANDAGE.

In the words of the author, "This efficiently protects the skin; it is too thick to scratch through. This is a simple measure, but may do more good to your patient than anything else".

*In the
treatment of
infantile
eczema use*

ACE COTTON (No. 1)
ELASTIC BANDAGE

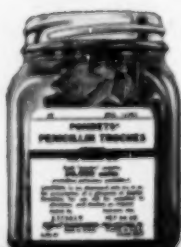
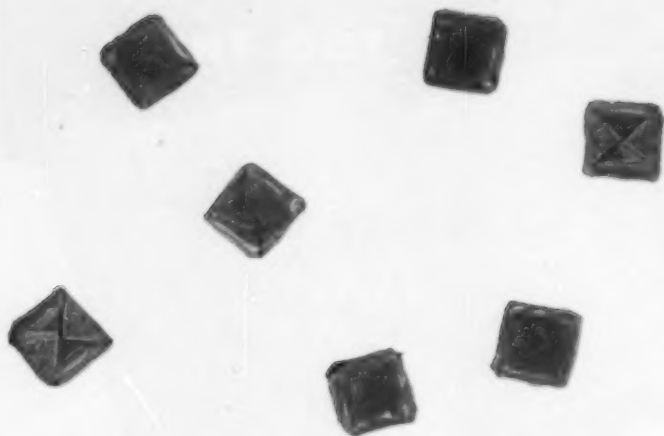
Available at your pharmacy
or surgical instrument dealer

B-D PRODUCTS
Made for the Profession

*Hill, L. W.:
Infantile Eczema.
J.A.M.A. 140:139.
141 (May 14) 1949.



BECTON, DICKINSON AND COMPANY, RUTHERFORD, N. J.



**Delicious
Hard Candy
and**

:

:

:

**20,000
units
of
penicillin**

PONDETS* PENICILLIN TROCHES

For local therapy and prophylaxis of oral infections caused by penicillin-sensitive organisms.

Delightful tasting—welcomed by young or old. Potent—supplies 20,000 units penicillin in slowly dissolving hard candy base. Effectiveness lasts approximately one half-hour.

*Trade Mark

Wyeth Incorporated, Philadelphia 3, Pa.



Contents

FEATURE ARTICLES

- Recent Advances in Tropical Medicine 55

Sir Philip Manson-Bahr

- Cancer of the Rectum and Sigmoid Areas . . . 76

T. M. Larkowski, M.D.,
F.A.C.S., F.I.C.S.

and

A. R. Rosanova, B.S., M.D.

- Critique of Rationale for Stilbestrol in Pregnancy Complications 87

John F. Mohan, M.D.

and

Joseph L. DeCourcy, M.D.

- A Single Injection Treatment for Abnormal Uterine Bleeding 89

Bertram Katzman, M.D.

- An Evaluation of the Various Component Factors of Sperm Motility . . . 92

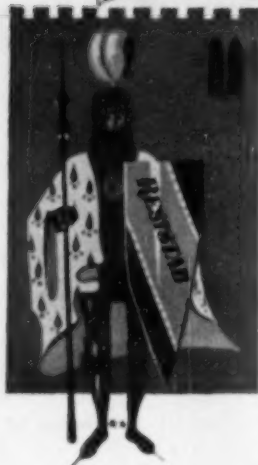
Gerard L. Moench, M.D.,
F.A.C.S.

SPECIAL ARTICLE

- A Review of New Developments in Therapy and Diagnosis for 1949 57

RESIST COLDS WITH

RESISTAB



Fight back at the common cold! No longer need sniffles lead to a full blown coryza and conjunctivitis with possible serious respiratory complications. The new antihistaminic—RESISTAB—can stop a cold at its onset.

RESISTAB—taken at the first signs of a cold—has been shown to have amazing effectiveness in aborting the symptoms.¹ It will even ameliorate them after a cold has developed.¹

RESISTAB—taken as directed—is remarkably free from toxic side effects. In clinical tests there was no evidence of epigastric distress, dizziness, sleepiness, urinary discomfort or incoordination.

Try RESISTAB yourself, recommend it to your patients.

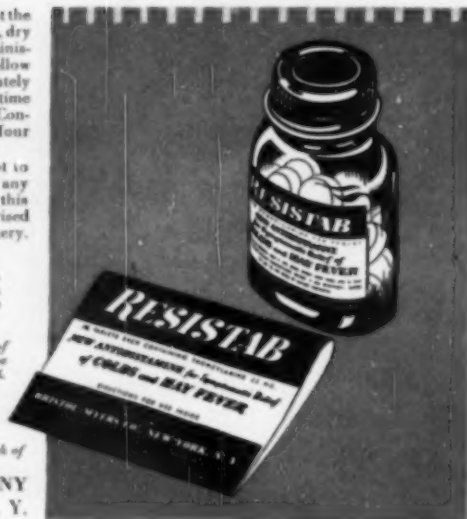
Dosage and Method of Use:—At the first sign of a cold—running nose, dry scratchy throat or sneezing, administer immediately one RESISTAB. Follow with another RESISTAB immediately before each meal and one at bedtime for a total of four tablets daily. Continue this therapy up to three or four days.

Patients should be advised not to exceed recommended dosage. If any drowsiness follows the use of this product, patients should be advised not to drive, or to operate machinery.

Each RESISTAB contains 25 mg. chlorpyramine. At pharmacies in folders of 12 and bottles of 36 tablets.

1. *The Prophylaxis and Treatment of the Common Cold with Nephazoline (chlorpyramine hydrochloride)*. Ind. Med. 10:508 (Dec.) 1949.

RESISTAB is a trade mark of
BRISTOL-MYERS COMPANY
19 West 50, New York 20, N. Y.



Contents

EDITORIALS

1949 and the Future ..	95
Nellie's Goose Flesh...	95
Liquidation of the Exclusive-Club Type of Hospital Staff	95
Patterns	95
Paranoiacs in the Woodpile	96
Weird Finance	96
Chaos in the Hospitals.	96
Doctor Rappleye's Report	96
The Fate in Store for the British Doctor	106

CONTEMPORARY PROGRESS

Urology	97
Otology	99
Rhinolaryngology	102
Ophthalmology	104
Letters to the Editor ..	20a
Modern Medicinals ...	28a
Modern Therapeutics ..	58a
News and Notes	74a
Classified Advertising .	81a

An Innovation!

RHINALGAN*

Long-lasting nasal decongestant with no systemic effect (Pressor or Respiratory) in

DOHONY SPRAY-O-MIZER*
(Combination Spray and Dropper)

Clinical and laboratory tests have proven:

**NO rise in bloodpressure
NO rapid pulse
NO wakefulness, restlessness or nervousness
NO smarting or stinging
NO secondary vasodilation...**

follow the local use of RHINALGAN

*Trade Mark—Pat. Pend.

**Pleasant
Efficient
Non-toxic
Bactericidal**

FORMULA: Desoxyephedrine Saccharinate 0.50% w/v in an isotonic aqueous solution with 0.03% Laurylammonium saccharin. Flavored. pH 6.4.

SUPPLIED: 30 grams (1 fl. oz.) in Dohony Spray-O-Mizer (Combination Spray and Dropper). Also for Doctor's office and Hospital use—in Pint bottles.

FOR TOPICAL APPLICATION—INDICATIONS include: common cold, allergic and hypertrophic rhinitis, sinus infections; for pre and post-operative shrinkage of nasal mucosa; as a diagnostic aid in office procedures. **ESPECIALLY SUITABLE FOR INFANTS AND CHILDREN.**

Substantiating data being sent you.

DOHO CHEMICAL CORPORATION • New York 13, N.Y.

Also Makers of **AURALGAN • O-TOS-MO-SAN • RECTALGAN** (Mallon Division)

*Medical
Book News*

CLASSICAL QUOTATIONS:

James Lind (1716-1794) ... 107

PSYCHODYNAMICS AND THE
ALLERGIC PATIENT: by Harold

A. Abramson, M.D. 107

ATLAS OF ROENTGENOGRAPHIC

POSITIONS: by Vinita Merrill ... 107

HEMORRHAGIC DISORDERS. A

Guide to Diagnosis and Treat-
ment; by Paul M. Aggeler, M.D.

and S. P. Lucia, M.D. 107

AN ELEMENTARY ATLAS OF
CARDIOGRAPHY. An Introduc-

tion to Electrocardiography and
X-Ray Examination of the Heart;

by H. Wallace-Jones, M.D., E.
Noble Chamberlain, M.D. and E.

L. Rubin, M.D. 108

TREATMENT IN PROCTOLOGY:

by Robert Turell, M.D. 108

save

68

*more fetal lives
in habitual abortion,
threatened abortion and
premature labor*



des

A review of the pertinent literature reveals that while the administration of diethylstilbestrol (**des**) will bring 86.6% of cases to term (1), progesterone will bring only 18.2% to term (2), a very significant difference of 68.4%.

Kornaky (3) found in his study of 35 women who were treated with massive doses of **des** that all pregnancies carried to term.

This evidence shows that at least 68.4% more fetal lives may be saved with **des**.

des is specifically designed for the treatment of threatened abortion, habitual abortion and premature labor. **des** tablets dissolve within a few seconds and are uniformly absorbed into the blood stream. Adequate dosage of **des** administered early in premature labor stops the pain in less than one minute.

des 25 mg. tablets of Grant Process highly micronized triple crystallized diethylstilbestrol U.S.P. XIII are available in containers of 30, 100, and 500 tablets.

save 68 more fetal lives

NOW! FOR PARENTERAL
ADMINISTRATION

Bio-des

FOR
INTRAMUSCULAR INJECTION

Bio-des (**des** in oil) contains 25 mg. per cc.
of Grant Process micronized diethylstilbestrol
U.S.P. XIII in redistilled sesame oil.

Bio-des is available in vials of 10cc. and 30cc.

REFERENCES:

(1) Rosenblum, G. and Melinkoff, E.
Preservation of the Threatened Pregnancy with
Particular Reference to the Use of Diethylstilbestrol.
West. Jr. Surg. Obs. and Gyn.
55, 597-603, Nov. 1947.

(2) Silbernagel, W. M. and Burt, O. P.
Ohio State Med. Jr. 39, 430, May 1943.

(3) Kornaky, K. J. Estrogenic Tolerance in Pregnant
Women. Amer. Jr. Obs. and Gyn. 53, 312-316, 1947.

For additional information, reprints and samples, write MEDICAL DIRECTOR

Grant Chemical Company, Inc.

95 MADISON AVENUE, NEW YORK 16, NEW YORK

MEDICAL TIMES

THE JOURNAL OF GENERAL PRACTICE

ARTHUR C. JACOBSON, M.D.

Editor-in-Chief

MALFORD W. THEWLIS, M.D.

Associate Editor

HARVEY B. MATTHEWS, M.D.

Associate Editor

GEORGE J. BRANCATO, M.D.

Associate Editor

MADELINE O. HOLLAND, D.Sc.

Technical Editor

ALICE M. MEYERS

Medical Literature Editor

ELIZABETH B. CUZZORT

Art Editor

Incorporating the
LONG ISLAND MEDICAL JOURNAL
WESTERN MEDICAL TIMES

Contributions Exclusive Publication: Articles are accepted for publication with the understanding that they are contributed solely to this publication and do not contain references to drugs, synthetic or otherwise, except under the following conditions: 1. The chemical and not the trade name must be used, provided that no obscurity results and scientific purpose is not badly served. 2. The substance must not stand disapproved in the American Medical Association's annual publication, *New and Non-official Remedies*. When drawings or photographs are furnished, the publishers will have half tones or line cuts made without expense to the authors. Reprints will be supplied authors at cost.

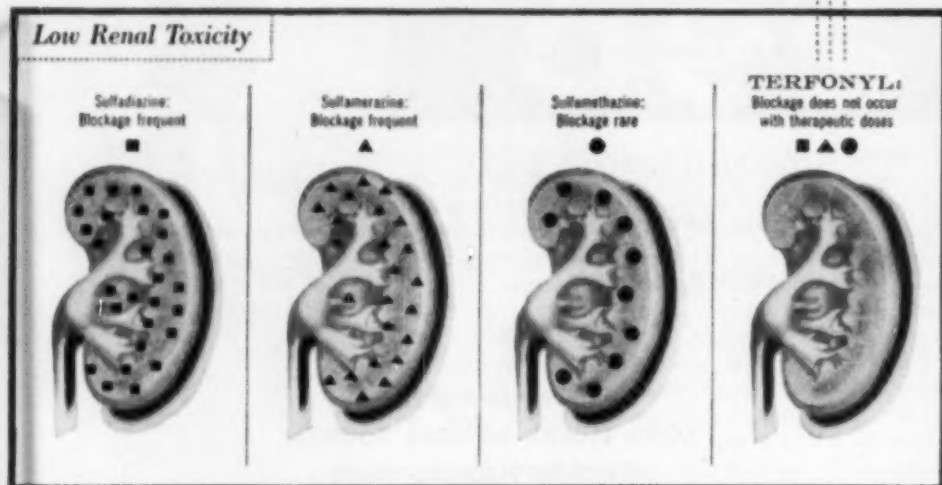
Medical Times Contents copyrighted 1950, by Romaine Pierson Publishers, Inc., Arthur C. Jacobson, M.D., Treasurer; Randolph Morando, Business Manager and Secretary; William Leslie, 1st Vice President and Advertising Manager; Roger Mullaney, 2nd Vice President and Asst Advertising Manager. Published at East Stroudsburg, Pa., with executive and editorial offices at 67 Wall St., New York 5, N. Y. Book review and exchange department 1313 Bedford Ave., Brooklyn, N. Y. Subscription Rates on request. Notify publisher promptly of change of address or if paper is not received regularly.

TERFONYL

Sulfadiazine
Sulfamerazine
Sulfamethazine

FOR SAFE SULFONAMIDE THERAPY

Low Renal Toxicity



With usual doses of Terfonyl the danger of kidney blockage is virtually eliminated. Each of the three components is dissolved in body fluids and excreted by the kidneys *as though it were present alone*. The solubility of Terfonyl is an important safety factor.

Terfonyl contains equal parts of sulfadiazine, sulfamerazine and sulfamethazine, chosen for their high effectiveness and low toxicity.

Terfonyl Tablets, 0.5 Gm. Bottles of 100 and 1000

Terfonyl Suspension, 0.5 Gm. per 5 cc.

Appetizing raspberry flavor • Pint and gallon bottles

SQUIBB MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

"TERFONYL" IS A TRADEMARK OF E. A. SQUIBB & SONS

Board of Contributing Editors

ANDREW M. BABEY, M.D.
Brooklyn, N. Y.

DONALD deF. BAUER, M.Sc., M.D.,
C.M.

LadySmith, Wisconsin

GABRIEL BIDOU, M.D.
Paris, France

THOMAS M. BRENNAN,
M.D., F.A.C.S., LL.D.
Brooklyn, N. Y.

E. JEFFERSON BROWDER,
M.D., F.A.C.S.
Brooklyn, N. Y.

EARLE G. BROWN, M.D.
Minneapolis, N. Y.

WILLARD R. COOKE, M.D., F.A.C.S.
Galveston, Texas

JOHN NORRIS EVANS, M.D., F.A.C.S.
Brooklyn, N. Y.

EDGAR L. GILCREEST, M.D., F.A.C.S.
San Francisco, Cal.

ALFRED GORDON, M.D., F.A.C.P.
Philadelphia, Pa.

CHARLES W. HENNINGTON,
B.S., M.D., F.A.C.S.
Rochester, N. Y.

MINAS JOANNIDES,
M.S., M.D., F.A.C.S., F.A.C.C.P.
Chicago, Ill.

RALPH I. LLOYD, M.D., F.A.C.S.
Brooklyn, N. Y.

WALLACE MARSHALL, M.D.
Two Rivers, Wisc.

VINCENT P. MAZZOLA,
M.D., D.Sc., F.A.C.S.
Brooklyn, N. Y.

THOMAS A. MCGOLDRICK, M.D., LL.D.
Brooklyn, N. Y.

MADGE C. L. MCGUINNESS, M.D.
New York, N. Y.

LAWRENCE CHESTER McHENRY,
M.D., F.A.C.S.
Oklahoma City, Oklahoma

HAROLD R. MERWARTH, M.D., F.A.C.P.
Brooklyn, N. Y.

D. G. MACLEOD MUNRO,
M.D., M.R.C.P. (Edin.)
London, Eng.

VICTOR C. PEDERSEN, M.D., F.A.C.S.
New York

ARTHUR J. SCHWENKENBERG, M.D.
Dallas, Texas

VICTOR A. TADROSS, M.D.
Brooklyn, N. Y.

HENRY E. UTTER, M.D.
Providence, R. I.

Increases Load Capacity by **100%**

...accommodates 2 instrument trays instead of one

The "American"
All-Purpose JUNIOR AUTOCLAVE
(MODEL 8816)

- Fully automatic and self-compensating for all types of loads.
- Requires no valuable floor space. May be placed on any flat surface and operated from convenient electrical outlet.
- This all-purpose unit with 8"x8"x16" chamber will sterilize instruments, dressings, rubber gloves, solutions, antibiotics and all allied loads.
- The unit is automatically "burn-out-proof" and operates by one control lever which governs the complete functional cycle.

Presents a radical departure in autoclave design that meets every requirement wherever a single, pressure steam sterilizer of small size is indicated. Duplicates in every respect the efficient, precision performance of standard size "American" Surgical Supply Sterilizers widely used in hospitals.



Diagrammatic comparison of Model 8816 and 8"x16" cylindrical type. Note accommodation of 2 instrument trays instead of one.

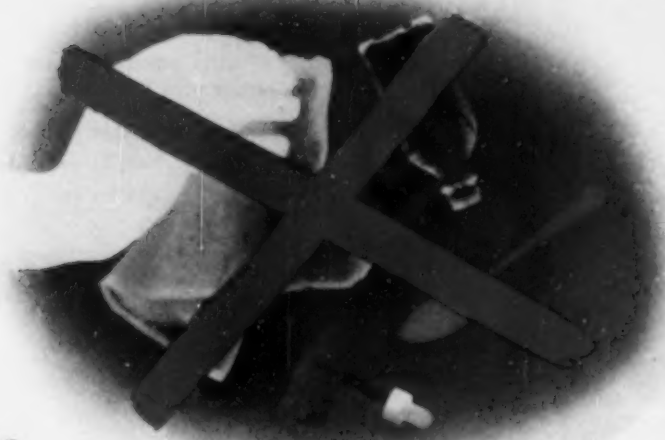
Brings Hospital Sterilizing
Efficiency to the
PROFESSIONAL OFFICE
LABORATORY • CLINIC



SPACIOUS, DOUBLE-CABINET MODEL DB-16 is ideally constructed to accommodate MODEL 8816, thus combining the essentials of a practical Surgical Supply for the private office.

WRITE TODAY for complete information

AMERICAN STERILIZER COMPANY
Erie, Pennsylvania



**“...the
common cold
is aborted or cured...”¹**

“... the common cold is aborted or cured when the allergic reaction is reversed before irreparable damage has been done to the respiratory mucous membrane.”¹

CORICIDIN

(antihistaminic—antipyretic—analgesic)

The chief constituent of CORICIDIN* is Chlor-Trimeton* Maleate, probably the most potent antihistaminic in use today. Because of its extraordinary activity, Chlor-Trimeton is effective in remarkably small dosage—1/10 to 1/20 the dosage of other current antihistaminics. Side reactions, including drowsiness, are correspondingly rare. In addition to Chlor-Trimeton, CORICIDIN contains acetylsalicylic acid and acetophenetidin with caffeine, for analgesic and antipyretic effect.

Taken early, CORICIDIN is highly successful in favorably influencing the common cold. Even after the cold is established, CORICIDIN may reduce its severity and distress and help prevent spread of the infection by reducing sneezing.

PACKAGING: CORICIDIN tablets, tubes of 12; bottles of 100 and 1000.

CORICIDIN is available on prescription only.

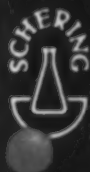
1. Brewster, J. M.: U. S. Nav. M. Bull. 49:1, 1949.

*T. M.

Schering

CORPORATION • BLOOMFIELD, NEW JERSEY

CORICIDIN



For a better prognosis in Chronic Hepatitis

Palatability remains a factor of major importance in the administration of choline products.

In Syrup Choline Dihydrogen Citrate (Flint) the pleasant citrate taste is skillfully blended into a cherry flavored syrup to produce a product of outstanding palatability and stability.

The continued acceptance of choline by the patient during extended periods of therapy can be assured by the specification—"Choline (Flint)."



CHOLINE (FLINT)



Two convenient dosage forms:



"Syrup Choline (FLINT)"

—25 per cent W/V—containing one gram of choline dihydrogen citrate in each 4 cc., is supplied in pint and gallon bottles.



"Capsules Choline (FLINT)"

—containing 0.5 gram of choline dihydrogen citrate, are supplied in bottles of 100, 500 and 1000.

For your copy of "The Present Status of Choline Therapy in Liver Dysfunction," write—

FLINT, EATON & COMPANY
Decatur, Illinois



IN SEVERE HYPERTENSION

"Of all the drugs used . . .

Vertavis®
(Irwin-Neisler)

"Of all the drugs used to lower blood pressure in essential hypertension, veratrum viride (VERTAVIS) has produced the most marked reduction of blood pressure in the greatest number of patients."¹

VERTAVIS contains in each tablet: veratrum viride Biologically Standardized, 10 CRAW UNITS. The CRAW UNIT of potency is an Irwin-Neisler research development. Supplied in bottles of 100, 500, 1000.

In severe hypertension, more objective signs of improvement have been the clearing of hemorrhages and exudates in the optic fundi;¹ examination of the optic fundi revealed visible arterial and arteriolar dilatation in the retinal blood vessels.² VERTAVIS effects dramatic symptomatic relief of exertional dyspnea, palpitation, nervous irritability and headache.¹

Literature and dosage schedules supplied on request.

(1) Freis, E. D.: Med. Clin. N. Am. 32: 1247-1258, 1948; (2) Wilkins, et al.: J.A.M.A. 140: 261-263, 1949.

IRWIN, NEISLER & COMPANY

MEDICAL TIMES, FEBRUARY, 1950



DECATUR, ILLINOIS



NOW... ADDED CONVENIENCE FOR THE PATIENT

The "RAMSES"® Tuk-A-Way† Kit provides added convenience for the patient, for she will find, neatly assembled in this colorful, washable plastic kit, all the units required for optimum protection against conception: a "RAMSES" Flexible Cushioned Diaphragm of the prescribed size; a "RAMSES" Diaphragm Introducer of corresponding size; and a regular-size tube of "RAMSES" Vaginal Jelly.‡

The Tuk-A-Way Kit packs inconspicuously in the corner of a traveling bag or dresser drawer. It is available to patients through all pharmacies.

*The word "RAMSES" is a registered trademark of Julius Schmid, Inc. "RAMSES" Vaginal Jelly is accepted by the Council on Pharmacy and Chemistry of the American Medical Association. The "RAMSES" Diaphragm and Diaphragm Introducer are accepted by the Council on Physical Medicine and Rehabilitation of the American Medical Association.

†Trademark of Julius Schmid, Inc. ‡Active Ingredients: Dodecaethyleneglycol Monoaurate 5%; Boric Acid 1%; Alcohol 5%.



gynecological division

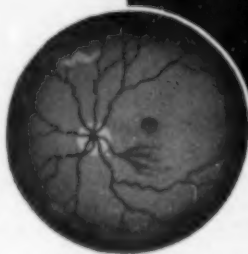
Julius Schmid, Inc.

423 West 55th Street, New York 19, N. Y.

quality first since 1883

RUTAMINAL*

Ocular
Fundus in
Degenerative
Vascular
Disease—
Hypertension,
Diabetes,
Arteriosclerosis
—note
tortuous
blood vessels,
areas of
exudation,
hemorrhagic
areas.



Normal
Ocular
Fundus



In keeping with newer clinical findings, the rutin content of RUTAMINAL has been increased to 60 mg. per tablet (three times the former rutin content) at no increase in cost to the patient.

*RUTAMINAL is the trademark of Schenley Laboratories, Inc. and designates exclusively its brand of tablets containing rutin, aminophylline, and phenobarbital.

the
protection
of
rutin¹
the
action
of
aminophylline
the
sedation
of
phenobarbital
—for
use
in
selected
cardiovascular
and
diabetic
conditions
in
which
excessive
capillary
fragility
presents
a
complicating
hazard
—bottles
of
100
tablets

schenley laboratories, inc., 350 fifth ave., new york 1, n. y.

© Schenley Laboratories, Inc.

MEDICAL TIMES, FEBRUARY, 1950

19a



**It is accurate
It is practical
It is smart**

For the Busy Doctor's Office

Designed to give maximum service anywhere in the busy office . . . the STANDBY Model Baumanometer is light in weight, easy to move about and complete in every detail. Simply place it next to the patient — anywhere — by desk, chair or table. This true mercury-gravity instrument with the easy-to-read EXACTILT Scale will give you scientifically accurate readings quickly . . . for many busy years.

Your surgical instrument dealer will gladly send you one for your inspection.

W. A. BAUM CO., INC.
SINCE 1916 ORIGINATORS AND MAKERS OF
BLOODPRESSURE APPARATUS EXCLUSIVELY
NEW YORK 1, N. Y.

*Trade Mark — Pat. Pend.

LETTERS

TO THE EDITOR

This department is offered as an Open Forum for the discussion of topical medical issues. All letters must be signed. However, to protect the identity of writers, who are invited to comment on controversial subjects, names will be omitted when required.

REFRESHER ARTICLES

" . . . I like such articles [Infertility and Fertility] because to get them ready some smart man has to do a lot of reading, comb the literature in that particular field, boil it all down and bring it into one place for the use of the rest of us. It saves a lot of work and perhaps brings to the attention of most of us things we might otherwise overlook. I hope you continue to put out such articles as this."

James H. Hutton, M.D.
Chicago, Ill.

POLITICAL MEDICINE

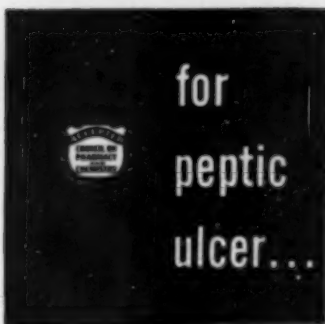
"Dr. Love's letter in the MEDICAL TIMES, November, 1949, in reference to political medicine, reminds me of what Thomas Jefferson once wrote on the same subject.

"In Jefferson's 'Notes on the State of Virginia,' Query XVII, we find, among other things, the following:

" . . . Was the government to prescribe to us our medicine and diet, our bodies would be in such keeping as our souls are now. Thus in France the emetic was once forbidden as a medicine, the potato as an article of food. Government is just as infallible, too, when it fixes systems in physics. Galileo was sent to the Inquisition for affirming that the earth was a sphere; the government had declared it to be as flat as a trencher, and Galileo was obliged to abjure his error. This error, however, at length

—Continued on page 38a

MEDICAL TIMES, FEBRUARY, 1950



a newly accepted therapy

Mounting clinical evidence, now accepted by the Council on Pharmacy and Chemistry of the American Medical Association, continues to support the claims made for the efficacy of Resinat. The most recent studies, for example, demonstrate that complete symptomatic relief occurs in from 48 to 72 hours and is accompanied by regression of the ulcer crater in from two to four weeks, as seen in most of the 120 patients treated with Resinat.¹

Resinat acts as an adsorbent which effectively neutralizes excess gastric acidity. It does not cause constipation nor does it produce acid rebound or other objectionable side effects.

Resinat is available in Capsules (0.25 Gm.), Tablets (0.5 Gm.), Powder (1 Gm.).

1. Weiss, S., Espinal, R. B. & Weiss, J.: Therapeutic Application of Anion Exchange Resins in the Treatment of Peptic Ulcer, Review of Gastroenterology, 16:501-509, June, 1949.

Literature and samples available.



THE NATIONAL DRUG COMPANY
More than Half a Century of Service



PHILADELPHIA 44, PA.
to the Medical Profession.

Announcing...

'PERAZIL'[®] BRAND

CHLORCYCLIZINE HYDROCHLORIDE

a (new type) antihistaminic

*Relief from allergic symptoms for
12 to 24 hours with a single dose*



'Perazil' brand Chlorcyclizine Hydrochloride is a completely new type of antihistaminic, its distinctive component being a piperazine ring instead of the usual ethylenediamine grouping. This uniquely different chemical structure results in a prolongation of action—up to 24 hours following a single 50 mg. dose.¹ In contrast to many other antihistaminic compounds, 'Perazil' exhibits a low incidence of side-effects despite its high potency and prolonged effectiveness.

INDICATIONS: Hay fever, vasomotor rhinitis, urticaria, allergic dermatitis and pollen asthma.

DOSAGE: 50 mg. (one product) once daily with water; may be increased to two or three times daily if required in very severe cases.

PREPARATION: 'Perazil' brand Chlorcyclizine Hydrochloride 50 mg. Compressed (scored). Bottles of 100.

1. Jeros, S. H.: *Annals of Allergy*, Vol. 7, No. 4 July-Aug. 1949



BURROUGHS WELLCOME & CO. (U.S.A.) INC., TUCKAHOE 7, N. Y.

the finest tape we've ever made

now

new adhesive formula

gives these distinct advantages

sticks better
less irritating

more flexible

stays fresh longer
whiter appearance

This product has no connection whatever with the
American National Red Cross.

2 IN.  5 YDS.

RED CROSS
"10"
**ADHESIVE
TAPE**

Johnson & Johnson





The "DRY TREATMENT" OF VAGINITIS

Comforting to the patient, simple and clean to administer, is the "dry treatment" of vaginal leukorrhea, using—

1. **TRYCOGEN POWDER** insufflation in the office; (optional)
2. **TRYCOGEN INSERTS** for home treatment

In trichomonal, monilia, or senile vaginitis, TRYCOGEN acts to destroy the parasitic invaders, relieve the pruritus, and restore the normal vaginal flora.

TRYCOGEN presents sodium thiosulfate, thymol, oxyquinoline sulfate and oil of wormwood in a base of boric acid and starch. Non-irritating; non-staining.

Trycogen Inserts, Boxes of 18 and 100 • Trycogen Powder, 25-gram vials. Also in 8-oz. and 16-oz. containers.

THE ALPHADEN COMPANY

CHICAGO, ILLINOIS



for
injections
without
objections

VIM needles are made of "Laminox"
stainless steel, which, unlike many types
of steel, can be heat-treated and
given a true spring temper.

Consequently, VIM needles take
and hold a razor edge of lasting keenness. That's

why VIM injections are
easy to give, and —
just as important —
easy to take.

S P E C I F Y



hypodermic needles and syringes

Available through your surgical supply dealer

MACGREGOR INSTRUMENT COMPANY, NEEDHAM 92, MASS.

MEDICAL TIMES, FEBRUARY, 1950

25a

drain swampy tissues

MERCUHYDRIN is unexcelled for draining edematous tissues of cardiac or renal origin.

MERCUHYDRIN[®]

SODIUM

well tolerated locally, a diuretic of choice

effective To remove excess body fluid, water-binding sodium must be eliminated.^{1,2} This MERCUHYDRIN does. Clinical investigation has shown that "the average total excretion of sodium in 24 hours was increased more than four times by MERCUHYDRIN injections."³

well tolerated systemically Both experimental⁴ and clinical^{5,6} evidence attest to the relative safety of MERCUHYDRIN. Exhaustive renal function tests and electrocardiographic studies have demonstrated that it is notably free from unfavorable clinical effect.^{5,6}

high local tolerance MERCUHYDRIN is outstanding for its local tissue tolerance.⁷ High local tolerance permits intramuscular administration—with minimal irritation and pain—as often as required for the frequent-dosage schedule of current clinical practice.

MERCUHYDRIN (meralluride sodium solution) is available in 1 cc. and 2 cc. ampuls.

bibliography: (1) Donovan, M. A.: New York State J. Med. 45:1756, 1945. (2) Resner, P. B., and Burch, C. E.: Proc. Soc. Exper. Biol. & Med. 47:543, 1946. (3) Origg, D. E., and Johns, V. J.: California Med. 69:133, 1948. (4) Chapman, D. W., and Schaffer, C. F.: Arch. Int. Med. 79:449, 1947. (5) Modell, W.; Gold, H., and Clarke, D. A.: J. Pharmacol. & Exper. Therap. 84:284, 1945. (6) Finkelstein, M. B., and Smyth, C. J.: J. Michigan M. Soc. 45:1010, 1946. (7) Gold, H., and others: Am. J. Med. 3:665, 1947.

*L*afayette
laboratories

INC., MILWAUKEE 1, WISCONSIN

maintain edema-free state

Only one or two tablets daily—plus an occasional injection—are needed to maintain the cardiac patient at "dry weight" employing Tablets MERCUHYDRIN® with Ascorbic Acid. Some patients—freed of accumulated fluid with parenteral meralluride sodium—may be kept edema-free on tablets alone.

Tablets MERCUHYDRIN with Ascorbic Acid permit daily fluid control with a minimum of injections facilitating the frequent-dosage schedule of modern diuretic therapy.

ideal for ambulant patients and those who cannot be given frequent injections.

well tolerated when prescribed in the recommended dosage.

effective in producing mild, sustained diuretic action.

convenient—the oral is the safest and most convenient route.

Keep your cardiac patients edema-free with . . .

Tablets MERCUHYDRIN®

WITH ASCORBIC ACID

dosage: One to two tablets daily—morning or evening—preferably after meals.

available: Bottles of 100. Each tablet contains meralluride 60 mg. and ascorbic acid 100 mg.

*L*akeside
laboratories, INC., MILWAUKEE 1, WISCONSIN

Modern MEDICALS

Physicians will find that these brief resumés of essential information relative to the newer products are so prepared that they may be removed and posted on standard 3x5" file cards, and find as illustrated in the adjoining picture, for ready reference.



Rhinolgan

2-50

MANUFACTURER: The Dohy Chemical Corporation, 100 Varick St., New York 13, N. Y.

INDICATIONS: As a long-lasting, non-toxic, stainless, bactericidal nasal decongestant with no systemic effect (pressor or respiratory) in: common cold, allergic and hypertrophic rhinitis, sinus infections; for pre- and post-operative shrinkage of nasal mucosa. Does not cause rise in blood pressure, rapid pulse, smarting or stinging, or secondary vasodilation. Especially suitable for infants and children.

ACTIVE CONSTITUENTS: Desoxyephedrine saccharinate 0.50 per cent w/v an isotonic aqueous solution with 0.02 per cent Laurylammonium saccharin pH 6.4. Flavored.

DOSAGE: Topically by spraying or drops, every 3 hours, or as indicated. Use undiluted as supplied.

HOW SUPPLIED: Thirty grams (1 fl. oz.) in Dohy Spray-O-Mizer (combination plastic spray and dropper). Also, for doctor's office or hospital use, in pint bottles.

Pentaquine and Quinine

2-50

MANUFACTURER: Abbott Laboratories, North Chicago, Illinois.

INDICATIONS: As a curative agent for vivax malaria.

ACTIVE CONSTITUENTS: Each tablet represents 10 mg. pentaquine base (as pentaquine phosphate 13.3 mg.) and 0.3 Gm. quinine sulfate. The tablets are red and sugar-coated.

DOSAGE: One tablet three times daily provides a therapeutic dose of the combination. All patients should have a daily urinalysis and hemoglobin determination the first week and every third day thereafter as a precaution against hemolytic anemia.

HOW SUPPLIED: In bottles of 50 tablets.

Pabasl Tablets

2-50

MANUFACTURER: Ives-Cameron Company, Inc., 22 East 40th St., New York 16, N. Y.

INDICATIONS: Treatment of rheumatoid arthritis, acute rheumatic fever. Prophylaxis of recurrent rheumatic fever, fibrositis, and gout.

ACTIVE CONSTITUENTS: Each tablet contains: Sodium salicylate, 0.3 Gm. (5 grains); para-aminobenzoic acid (as the sodium salt) 0.3 Gm. (5 grains); and ascorbic acid, 0.010 Gm. (10 mg.)

DOSAGE: Two tablets three times daily.

HOW SUPPLIED: In bottles of 100 enteric coated tablets.

Orthexicol

2-50

MANUFACTURER: The Upjohn Company, Kalamazoo 99, Mich.

INDICATIONS: Alleviates cough associated with the common cold, laryngitis, tracheitis, bronchitis, and bronchial asthma.

ACTIVE CONSTITUENTS: Each 100 cc. contains: Dihydrocodeinone bitartrate, 36.5 mg.; Orthoxine hydrochloride, 338.0 mg.; hyoscyamine hydrobromide, 2.0 mg.; and sodium citrate, 6.5 Gm.

DOSAGE: One to 2 teaspoonfuls every three hours as required; children $\frac{1}{4}$ to 1 teaspoonful every four hours as required.

HOW SUPPLIED: Pint and gallon bottles.



**effective
chemotherapy
of urinary
tract infections**

SULAMYD

(Sulfacetimide-Schering)

high pathogen specificity ¹	low blood levels ²
high antibacterial activity ²	low tissue concentration ²
high urine concentration ³	low systemic toxicity ²
high urine solubility ⁴	low renal risk ¹⁻²

Dosage: SULAMYD® (Sulfacetimide-Schering), 2 tablets three times daily after meals. For prophylaxis, SULAMYD, 2 tablets twice daily beginning 24 hours prior to manipulative or surgical procedure and continuing for 48 hours after.

Packaging: SULAMYD Tablets of 0.5 Gm., bottles of 100 and 1000 tablets.

Bibliography:

1. Alyea, E. P., and Parrish, A. A.: *South. M. J.* 56:710, 1943.
2. Nashit, R. M., and Glickman, S. I.: *J. Michigan M. Soc.* 46:464, 1947.
3. Lebr, D.: *J. Urol.* 54:47, 1945.
4. Juelson, J. J.: *J.A.M.A.* 129:157, 1945.
5. Korten, W. M., in discussion on Herrold, R. D.: *Wisconsin M. J.* 47:467, 1942.

Schering

CORPORATION • BLOOMFIELD, NEW JERSEY

SULAMYD



Dasikon

2-50

MANUFACTURER: The S. E. Massengill Co., Briston, Tenn.

INDICATIONS: In the treatment of the common cold.

ACTIVE CONSTITUENTS: Each capsule contains: Methapyrilene hydrochloride 25 mg.; caffeine 30 mg.; aspirin 0.2 Gm.; acetophenetidin 0.12 Gm.; and atropine sulfate .06 mg.

DOSAGE: Two capsules at the first sign of a cold, followed by two capsules every three hours for two doses, then one capsule every four hours. A maximum of 8 capsules in twenty-four hours.

HOW SUPPLIED: In bottles of 100, 500 and 1000 blue-top capsules.

Roniacol Tartrate

2-50

MANUFACTURER: Hoffman-La Roche, Inc., Roche Park, Nutley 10, New Jersey.

INDICATIONS: Recommended for the treatment of vascular spasm, Raynaud's syndrome, Buerger's disease, endarteritis, intermittent claudication, chilblains, migraine associated with vascular spasm, and other diseases in which peripheral vasodilation is indicated.

ACTIVE CONSTITUENTS: The tartaric acid salt of the alcohol corresponding to nicotinic acid. It is less likely than nicotinic acid to produce undesirable side effects. Moreover, its therapeutic action is more prolonged and patients do not develop tolerance to the drug.

DOSAGE: From one to four tablets are given one to three times daily.

HOW SUPPLIED: In scored tablets containing 50 mg. of nicotinic acid alcohol, bottles of 100 and 500.

Sedacof Expectorant

2-50

MANUFACTURER: The S. E. Massengill Company, Bristol, Tenn.

INDICATIONS: Expectorant.

ACTIVE CONSTITUENTS: Each teaspoonful (5 cc.) contains: N, N-dimethyl-N'-(2-pyridyl)-N'-thienyl ethylenediamine hydrochloride) 15 mg. (1/4 gr.); sodium citrate, 0.2 Gm. (3 gr.); ammonium chloride 0.1 Gm. (1 1/2 gr.); ephedrine hydrochloride, 10 mg. (1/6 gr.); antimony potassium tartrate, 1 mg. (1/60 gr.); and aromatics, q.s.

DOSAGE: Adults, 1 teaspoonful every hour for six doses, then 1 teaspoonful every two hours.

The maximum daily dose for adults should not exceed 10 teaspoonfuls.

HOW SUPPLIED: In gallon and pint bottles.

Alzinox Magmas

2-50

MANUFACTURER: The E. L. Patch Company, Stoneham, Mass.

INDICATIONS: In the treatment of hyperacidity and peptic ulcer.

ACTIVE CONSTITUENTS: Magma Alzinox (white) each teaspoonful (5 cc.) contains dihydroxy aluminum aminoacetate 0.5 gram (7.7 grs.). Magma Alzinox (pink) with phenobarbital and homatropine methyl bromide—each teaspoonful (5cc.) contains: dihydroxy aluminum aminoacetate 0.5 gram (7.7 grs.); phenobarbital 8.1 mg. (1/8 gr.); homatropine methyl bromide 0.65 mg. (1/100 gr.)

DOSAGE: One or two teaspoonfuls one to two hours after meals and upon retiring.

HOW SUPPLIED: 8 ounce bottles.

Caubren Compound

2-50

MANUFACTURER: Whittier Laboratories, 4210 Peterson Ave., Chicago 30, Ill.

INDICATIONS: In the treatment of the common cold.

ACTIVE CONSTITUENTS: Each tablet contains: Chlorothen citrate 25 mg.; acetophenetidin 320 mg.; and caffeine 32 mg.

DOSAGE: Medication should begin as soon as possible after onset of the cold utilizing one or two tablets every three or four hours to control symptoms. Therapy should be continued for a minimum of forty-eight hours.

HOW SUPPLIED: Bottles of 100 tablets.



years of constipation corrected in days



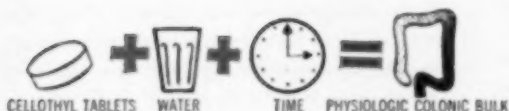
Bargen reports "a large number of patients"¹ with obstinate constipation "happily" and physiologically corrected with Cellothyl.

"These patients were not afflicted with any ordinary form of constipation, for they had taken large quantities or as some of them said 'barrels of laxatives' of one kind or another. The results achieved are all the more striking because the patients . . . felt that there was no hope for the relief of their obstinate constipation."

In cases of "obstinate constipation of long duration"¹—even from early childhood—a striking change for the better followed administration of Cellothyl.

In a physiologic manner: Cellothyl follows the normal physiologic gradient from mouth to rectum, providing bulk where bulk is needed—in the colon. Bargen demonstrated through the use of operative stomata that Cellothyl passes through the stomach in liquid form, then through the intestines as a more viscous fluid forming soft, moist bulk in the colon.

1. "A Method of Improving Function of the Bowel": J. Arnold Bargen, M.D., Division of Medicine, Mayo Clinic, Rochester, Minnesota, in *Gastroenterology*, 13:275 (Oct.) 1949.



Cellothyl[®]
(brand of methylcellulose)

CHILCOTT

Laboratories Division of The Maltine Company

MORRIS PLAINS, NEW JERSEY

Over 5000 Cases Investigated in 9 separate studies support Antihistaminic treatment of the COMMON COLD

Extensive Clinical Studies

The theory of antihistaminic control of the common cold is supported by 9 separate clinical investigations covering more than 5,000 cases. In the first report by Brewster¹ on "well over 100 cases," antihistaminic therapy was found "to completely abort about 10 per cent of such cases and to shorten the course and afford marked subjective relief to 95 per cent of all cases." Encouraged by these results, a second study involving 572 subjects² from the U. S. Naval Hospital at Great Lakes, Illinois, was undertaken. In this carefully regulated investigation five different antihistaminics were employed in comparison with control medication. No less than 90 per cent success was achieved when treatment was begun within the first hour of the onset of symptoms. This percentage declined to the lower, but still highly satisfactory, figure of 70 when treatment was delayed up to 12 hours.

Between the two publications by Brewster there appeared a report by Gordon³ on a similar study embracing 500 cases. Between 85 and 92 per cent of patients showed benefit from using antihistaminics. An industrial study was undertaken by Murray⁴ on the personnel of a large manufacturing company. Over 500 patients received treatment. Of the entire group only seven persons lost any time from work. In the author's experience the treatment produced "more so-called cures and more relief from annoying symptoms than any other treatment used in our medical department in the past 28 years."

A succession of recent clinical studies⁵⁻⁹ com-

prising approximately 3,800 cases confirms these findings. All investigators generally agreed on several important facts:

- a. 70-90% of colds are stopped or alleviated with antihistaminic therapy;
- b. effectiveness of treatment depends on prompt institution of therapy;
- c. reduction of sneezing and coughing usually effected regardless of the duration of the cold, reduces spread of infection by eliminating droplet exposure.

Allergic Concept of the Common Cold

Histamine release is regarded as a causative factor in both the common cold and allergic syndromes. The resemblance between coryza and allergic rhinitis is too obvious to require more than mention. Troescher-Elam and her co-workers¹⁰ have shown that the histamine content of nasal secretions during acute coryza is double that found during attacks of allergic rhinitis. In the opinion of Fox and Livingston¹¹ the common cold is actually an allergic response to the cold virus or its products. Their views have received wide circulation through editorial comment in the *Journal of the American Medical Association*.¹² In the case of the common cold environmental factors such as fall in temperature and increased humidity probably cause increased permeability of the respira-

tory mucous membrane allowing the antigen (in this instance, the virus or its products) to contact the specific reagin in the cell more readily. The sequence of events as visualized by Brewster² is as follows:

"(a) cold virus present in upper respiratory tract; (b) trigger mechanism (chilling, ingestion of food or drink to which one is sensitive, inhalation of irritant); (c) allergic reaction producing edema of the mucous membrane of the respiratory tract (localized and patchy); (d) loss of normal protective power by the thus damaged mucous membrane, which in turn provides a culture medium for the virus and pathogenic organisms; (e) invasion of the body by pathogenic organisms causing complications of the common cold."

With this hypothesis the mode of action of the antihistaminic drugs became obvious. Again in Brewster's² words, "... the common cold is aborted or cured when the allergic reaction is reversed before irreparable damage has been done to the respiratory mucous membrane."

Effective Low-Dosage Antihistaminic Therapy

In the utilization of this notable advance in control of colds physicians have been aware of the side actions encountered with the commonly prescribed high doses of the older antihistaminics usually required for clinical effect. However, medical literature has recently appeared, based on comparative clinical studies, stating that 1-phenyl-1-(2-pyridyl)-3-dimethylaminopropane (*Inhiston*) is superior to many of the earlier antihistaminics in effectiveness and absence of side actions.¹³⁻²² Laboratory studies show that the therapeutic index—ratio of potency to toxicity—of *Inhiston* is 175. This compares most favorably with widely used older antihistaminics which

range from 26 to 97. Because of its greater therapeutic effectiveness, *Inhiston* is available in 10 mg. tablets. The maximum recommended daily dosage of *Inhiston* is only 60 mg. whereas the recommended dosage of most other antihistaminics must be at least 100 mg. daily for equal effect. *Inhiston*'s lower effective dosage level makes side-effects less likely. When taken at the first sign of a cold it can abort colds before they take hold. Taken later, *Inhiston* can help shorten the duration of the cold and reduce the chance of infecting others by stopping excessive nasal secretions.

Bibliography

- (1) Brewster, J. M.: U. S. Nav. M. Bull. 47:610, 1947. (2) Brewster, J. M.: U. S. Nav. M. Bull. 49:1, 1949. (3) Gordon, J. S.: *Laryngoscope* 59:1265, 1949. (4) Murray, H. G.: *Indust. Med. & Surg.* 18:215, 1949. (5) Brewster, J. M.: *Illinois M. J.* 96:382, 1949. (6) Armitage, J. J., and Sweet, C. C.: *Indust. Med. & Surg.* 18:509, 1949. (7) Phillips, W. F., and Finkbein, W. I.: *Indust. Med. & Surg.* 18:520, 1949. (8) Middleton, J. W., and Rider, J. A.: *Diseases of the Chest* 16:879, 1949. (9) Tebtack, H. E.: *Indust. Med. & Surg.* 19:39, 1950. (10) Trecocher-Elam, E.: *Ancona, G. R., and Kerr, W. J.*: *Am. J. Physiol.* 145:711, 1955. (11) Fox, N., and Livingston, G.: *Arch. Otolaryng.* 69:575, 1949. (12) Editorial: Allergy in Epidemiology of Common Cold. *J.A.M.A.* 141:138, 1949. (13) Huber, H. L.: *J. Allergy* 20:310 (July), 1949. (14) LaBelle, A., and Tidlow, R.: *Federation Proc.* 7:236, 1948. (15) Spörber, N.; Papa, D.; Schwenk, E.; Sherlock, M., and Fricano, R.: Presented Am. Chem. Soc., Chicago, April 21, 1948. (16) Spörber, N.; Papa, D.; Schwenk, E., and Sherlock, M.: Presented Am. Chem. Soc., Chicago, April 21, 1948. (17) Brown, E. A.: *Ann. Allergy* 6:393, 1948. (18) Wittich, F. W.: *Ann. Allergy* 6:397, 1948. (19) Schiller, I. W., and Lowell, F. C.: *New England J. Med.*, 240:215, 1949. (20) Manoc, B. A.: *Canad. M. A. J.* 61:156, (August) 1949. (21) Lovelace, M. H., and Dworin, M.: *J. Am. Women's A.* 4:105, (March) 1949. (22) Lovelace, M. H., and Dworin, M.: *Bull. New York Acad. Med.* 25:473, (August) 1949.



UNION PHARMACEUTICAL COMPANY, INC.
MONTCLAIR, NEW JERSEY

PSYCHOSOMATIC INFLUENCE

THOUGHTFUL physicians have long practiced it, but only in recent years has the psychosomatic approach become a definite therapeutic principle. The new medical philosophy recognizes the influence of emotional factors in the causation of disease as well as its resultful treatment. Psychosomatic medicine reemphasizes the age-old concept that sickness affects the person, and the person affects the sickness.

Psychosomatic symptoms are not born of imagination. The pain or discomfort the patient experiences is as real and as difficult to endure as pain associated with organic pathology. Indeed, recent research indicates that functional conditions, if long continued, may progress to true organic conditions¹. This possibility is especially present in the sphere of the visceral organs.

The emotional influence on the alimentary canal was described by Cannon². Not only the mechanical action may be impaired, but the functioning of the digestive glands may stop. Others^{3, 4, 5} have pointed out that the emotional stress imposed upon the individual by modern living conditions may be a major factor in causing functional disorders, particularly of the gastrointestinal tract.

It is readily conceivable that constipation which begins as a psychic disorder, may assume true functional character under influence of the factors that lead to anal impotence. And while practical psychotherapy in the form of reassuring advice may prove helpful, judicious medicinal therapy provides the relief needed to obtain favorable response.

In the management of constipation, whether psychosomatic or functional, Ex-Lax lends itself especially well to the therapeutic aim, because it acts without "ostentation". Ex-Lax gently stimulates peristalsis, without giving rise to sudden, embarrassing urgency by day, and does not disturb sleep, when taken at bed-

time. Neither is the action of Ex-Lax slow and uncertain, requiring several days to become effective. By avoiding excess in either direction, too speedy or too delayed action, Ex-Lax is not likely to create constipation consciousness nor discourage the patient with the treatment because of the inconvenience and discomforts it exacts.

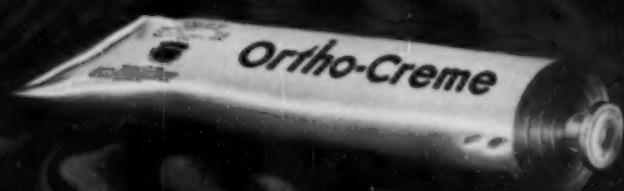
Of equal importance from the psychosomatic viewpoint is the pleasing taste of Ex-Lax, imparted by its chocolated base. Taking Ex-Lax imposes no hardship. For use during pregnancy, in administration to children, and for the patient already burdened with unpleasant medication, the appeal to taste provided by Ex-Lax deserves particular consideration.

Disappointment in effectiveness is an adverse psychic influence in treatment. To guard against this possibility, the phenolphthalein used in Ex-Lax is biologically standardized for uniform action. And the proved freedom from toxicity makes Ex-Lax safe to administer in any dose required for adequate action under varying circumstances, whether for the relief of temporary constipation or the more prolonged treatment of chronic intestinal stasis. In appropriate doses, Ex-Lax is equally suitable for adults and children⁶.

Gentle but thorough action, freedom from side effects, and unusual palatability have earned for Ex-Lax the confidence of many physicians and increasingly wide use in their practice. Ex-Lax combines convenience with all-around usefulness.

To demonstrate the therapeutic merits and advantages of Ex-Lax, a liberal trial supply and literature will be gladly sent to physicians. Ex-Lax, Inc., Brooklyn 17, New York.

1. J. A. Naia: *Psychosomatic Med.* 10:120, March-April, 1948.
2. W. B. Cannon: *Am. J. Med. Sc.* 137:480, April, 1909.
3. C. W. Lauder: *Arch. Int. Med.* 42:282, August, 1928.
4. H. E. Ruggles: *Calif. & Western Med.* 29:221, Oct., 1928.
5. G. W. Slagle: *J. Mich. Med. Soc.* 41:119, February, 1942.
6. H. Beckman: *Treatment in General Practice*. Saunders, Philadelphia, 1945, p. 578.



*Delicately scented
Soft and white*

the most widely
prescribed
vaginal cream

Aci-jel



for maintenance of vaginal acidity in vaginitis

In vaginitis maintenance of vaginal acidity is considered to be "the most important factor"¹ in eradicating infection and preventing its recurrence. For the prophylaxis and treatment of nonspecific vaginitis Aci-jel, a highly buffered acid (pH 4.0) vaginal jelly,

- 1 Provides a persistent acid medium hostile to most vaginal pathogens;
- 2 Favors return of the normal vaginal flora;
- 3 Effectively controls symptomatology.

"... Much more satisfactory than the acid douche..."² Aci-jel is simply applied, prolonged in action and non-irritating. In cases of recurring vaginitis, prophylactic treatment with Aci-jel, prior to, during and after menses, will largely prevent recurrences.

Aci-jel is available in 3 1/4 oz. tubes with or without the ortho vaginal applicator. On original prescriptions specify "Aci-jel with applicator".

1. Karnaky, K.J.; *Am. J. Surg.* 48:216 (April) 1940.

2. Rakoff, A.E.; *M. Clin. North America*, 29:1354 (Nov.) 1945.



pharmaceutical corporation, raritan, n. j.

Appointment for anointment

Advise the arthritic to have an appointment with himself twice daily—

to apply

ARTHRALGEN

arthralgesic unguent

to painful joint and muscle areas. Relief from musculoskeletal discomfort after a single application is gratifyingly rapid, in a matter of minutes, and is of long duration, extending up to six hours following concomitant exposure of the affected parts to moist or dry heat.

Why does Arthralgen work so well? Its special formula advantageously blends the old and the new in local therapy. Rubefaction due to thymol and menthol plus analgesia due to methyl salicylate are synergistically combined with the unique vasodilating action of methacholine chloride. Arthralgen dilates both capillaries and arterioles. The resulting active hyperemia tends to counteract the vasospasm found in articular and non-articular rheumatism, relieves pain and discomfort and brings a welcome feeling of deep warmth and relaxation. All this is facilitated by Arthralgen's special ointment base containing selected wetting agents which enhance surface penetration and facilitate speedy effectiveness of the active ingredients.

Arthralgen is beneficial in the treatment of arthralgias, myalgias and neuralgias—sprains, lumbago, synovitis, bursitis, neuritis and myositis. In chronic arthritis, Arthralgen is a valuable topical adjunct to systemic therapy.

Arthralgen, Arthralgesic Unguent, contains 0.25% methacholine chloride, 1% thymol, 10% menthol and 15% methyl salicylate; available in 1 ounce tubes and half-pound jars.

Whittier

LABORATORIES • Division Nutrition Research Laboratories • Chicago 30, Illinois



SPONSOR:

CARNATION COMPANY

STATION:

CBS FULL NETWORK

PROGRAM:

CONTENTED HOUR

BROADCAST TIME:

SUNDAY 10:00 P.M. EST

WALLINGTON: When your baby is old enough to go off formula feedings your doctor will let you know. Don't be impatient and don't take advice from anybody except your doctor. He knows best.

Excerpt from the actual script of a recent broadcast of Carnation's Coast-to-Coast "Contented Hour"



Carnation Has Always Said: "ASK YOUR DOCTOR"

Carnation is against self-medication of any type. Our long association with health problems has convinced us of the real dangers inherent in the well-meant but ill-informed "medical" advice of friends and relatives.

Since Carnation is sincerely interested in the health of America's children—and because we know that *only the doctor* is qualified to prescribe for infant feeding—Carnation has always said, and will continue to say: "Ask Your Doctor!"

Millions of times every month, Carnation advertising directs young parents to the source of the soundest advice on child health—the doctor.

It is gratifying to realize that this long term educational work is producing tangible results. *The evidence: ...8 out of 10 mothers raising their children on Carnation say their doctor recommended it!*

Here is how Carnation protects the doctor's recommendation

You can prescribe Carnation Evaporated Milk *by name* with complete confidence. Every drop in every can of Carnation is processed with "prescription accuracy" in Carnation's own dairy plants, under Carnation's own step-by-step supervision. Painstaking care protects your recommendation when you recommend Carnation.



"From Condensed Cream"

The Milk Every Doctor Knows



"Premarin"

VAGINAL CREAM

CONJUGATED ESTROGENIC SUBSTANCES (equine) for local application

"Premarin" Vaginal Cream is the newest addition to the Ayerst group of "Premarin" Creams. The non-liquefying base in which the estrogen content is incorporated ensures maintenance of consistency at normal body temperature.

The local application of "Premarin" Vaginal Cream may be found of value alone or in combination with supportive therapeutic measures in the treatment of senile vulvovaginitis, pruritus vulvae and kraurosis vulvae, particularly when the production of specific local effects is the aim of therapy; or as an adjunct to estrogenic therapy by other routes when a pronounced effect is desired.

AVAILABILITY: Combination Package—No. 874, 0.625 mg. per Gm. Tube containing 1½ ounces together with specially designed dosage applicator. Refill—No. 874, 0.625 mg. per Gm. Tube containing 1½ ounces.

AS WELL AS... "PREMARIN" CREAM, in a non-greasy base, for use where the absence of oiliness following application is a desirable factor.

AVAILABILITY: No. 871, 1.25 mg. per Gm. Jars containing 1 and 2 ounces. No. 870, 0.625 mg. per Gm. Jars containing 1 and 2 ounces.

"PREMARIN" CREAMS are standardized in terms of the weight of active water-soluble estrogen content. The potency is declared in milligrams of conjugated estrogens (equine) expressed as sodium estrone sulfate.



AYERST, McKENNA & HARRISON LIMITED

22 East 40th Street, New York 16, N. Y.



For patients who require
ULTRAVIOLET irradiation
doctors recommend and
prescribe . . .

HANOVIA'S ULTRAVIOLET QUARTZ HEALTH LAMP

- The Hanovia Ultraviolet Quartz lamp outdoes the sun in ultraviolet energy.
- Activates Vitamin D—Nature's way.
- Invaluable for prenatal care and to nursing mothers.
- Prophylactic and curative effect on rickets.
- Assists children in the growth of sturdy limbs and sound teeth.
- Stimulates the blood-building centers of the body.
- Helps keep the hemoglobin and red blood cells at the full healthful level.

Ideal for post-operative recuperation and convalescence.

Available through your local surgical supply house.

For descriptive folder address Dept. MT-2

HANOVIA
Chemical & Mfg. Co.
NEWARK 5, N. J.

World's oldest and largest Manufacturer of ultraviolet lamps for the medical profession.



LETTERS

*continued
from page 20a*

prevailed, the earth became a globe, and Descartes declared it was whirled round its axis by a vortex. The government in which he lived was wise enough to see that this was no question of civil jurisdiction, or we should all have been involved by authority in vortices. In fact, the vortices have been exploded, and the Newtonian principle of gravitation is now more firmly established, on the basis of reason, than it would be were the government to step in, and to make it an article of necessary faith."

L. M.

Brooklyn, N. Y.

RABIES REPRINT

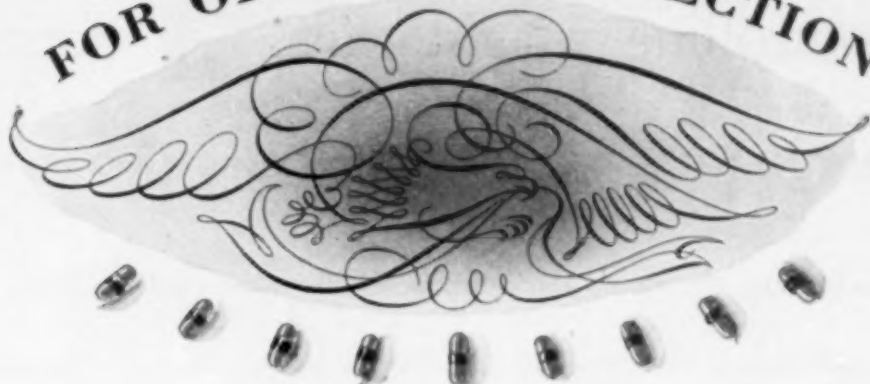
"The reprint on 'Rabies,' reprinted from your November issue has just recently come to our attention.

"There are certain statements made that need clarification and correction, in our opinion. It has been our observation that too many physicians are lacking in a clear concept of the animal-human relationship in this disease. On the other hand, veterinarians seem to be more fully informed and better acquainted with the disease. This is only natural since they see many more cases in general practice than do the physicians.

"Under the heading of 'Treatment of the dog' it is stated that '... in many cases quarantine of 3 to 6 months may be all that is necessary.' It is our opinion that such a period of quarantine would be entirely impractical if not totally impossible to enforce. In support of this criticism, may we point out the opinion set forth by the Subcommittee in Rabies of the National Research Council reprinted from the *Journal of the American Veterinary Medicine*

—Concluded on page 56a

FOR OPTIMUM PROTECTION



nine vitamins

A • B₁ • B₂ • B₆ • Nicotinic Acid • Pantothenic Acid • C • D • E

Nine vitamins—A, the B-group, C, D, E—are available in ABDEC® KAPSEALS® for well-rounded vitamin therapy. You will want to prescribe ABDEC KAPSEALS to overcome vitamin deficiencies quickly and to insure optimal intake of essential nutrients.

ABDEC® KAPSEALS®

comprehensive vitamin therapy

Dosage: For the average patient, one ABDEC KAPSEAL daily; during pregnancy and lactation, two Kapseals daily. Three Kapseals daily are suggested in febrile illnesses, for pre-operative and post-operative patients, and in other situations in which vitamin deficiencies are likely to occur.


EACH ABDEC KAPSEAL CONTAINS

Vitamin A	5,000 U.S.P. units
Vitamin D	1,000 U.S.P. units
Mixed Tocopherols (Vitamin E factors)	5 mg.
Vitamin B ₁ (Thiamine Hydrochloride)	5 mg.
Vitamin B ₂ (Riboflavin)	5 mg.
Vitamin B ₆ (Pyridoxine Hydrochloride)	1.5 mg.
Pantothenic Acid (As the sodium salt)	5 mg.
Nicotinamide	35 mg.
Vitamin C (Ascorbic Acid)	75 mg.

Supplied in bottles of 25, 50, 100 and 250.

PARKE, DAVIS & COMPANY



"A safe and effective drug to use in
controlling weight gain  during
pregnancy."

Coopersmith, B.L.: Dexedrine and Weight Control in Pregnancy, *Am. J. Obst. & Gynec.* (Oct.) 1949

Coopersmith reports the successful use of 'Dexedrine' Sulfate Tablets for weight control in a series of 100 obstetric patients. Because 'Dexedrine' curbed appetite and thus enabled these patients to follow their prescribed diets, control or reduction of weight was achieved in virtually all cases.



It is noteworthy that other methods, including the use of thyroid, had previously failed to prevent excessive weight gain in these same individuals.

"Thyroid", Coopersmith states, "increases the appetite . . . and is toxic in many cases."



"Dexedrine Sulfate", the report concludes, "is a safe and effective drug to use in controlling weight gain during pregnancy."

Smith, Kline & French Laboratories, Philadelphia

Dexedrine* Sulfate tablets • elixir

for control of appetite  in weight reduction

*T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.

immediate
relief

within hours itching, burning halted;
within 3 to 5 days discharge ceases.

speedy recovery 2 to 7 WEEKS average
in vaginitis, within 5 weeks in
cervicitis (postoperative)

westhiazole vaginal embodies every
proven modern requirement for rapid control
of infective vaginitis and cervicitis
... great buffering capacity • rapid
restoration of normal vaginal pH
• carbohydrates for growth of
friendly Doderlein bacilli • control
of secondary as well as primary
infections to accelerate healing.
There is nothing more...

effective, simple, dainty, convenient in
vaginitis and cervicitis



westhiazole
vaginal

single dose
applicators



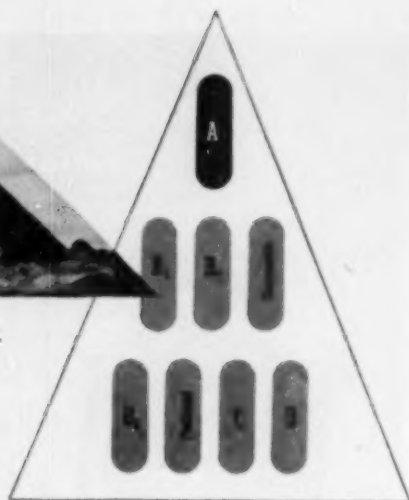
WESTHIAZOLE
VAGINAL: a sterile
 jelly containing 100%
SULPHATHIAZOLE, 0.5
gram, 5% **LACTIC**
ACID, 1% **ACETIC ACID**
in a polyethylene glycol base.
Non-irritant, non-toxic.

Samples and literature on request

WESTWOOD PHARMACEUTICALS

Division of Parke-Williams Co. • 483 Dewitt St., Buffalo 12, N. Y.

At the
Top of
the Multivitamin
Pyramid




THERA-VITA[®] 'Warner.'

with Synthetic Vitamin A
without fishy after-taste

The problem created by repugnant fishy after-taste in vitamins is solved by THERA-VITA[®] 'Warner'. The vitamin A in THERA-VITA[®] is the new synthetic Vitamin A Acetate 'Warner' which has been demonstrated to be as stable and biologically active as the most highly refined and purified natural vitamin A but is devoid of the all-too-common distasteful fishy after-taste and odor of the natural product.

The formula of THERA-VITA

Each capsule contains:		Vitamin A (synthetic vitamin A acetate)	12,500 U.S.P. Units
		Vitamin B ₁ (thiamine hydrochloride)	10 mg
		Vitamin B ₂ (riboflavin)	10 mg
		Niacinamide	100 mg
		Vitamin B ₆ (pyridoxine hydrochloride)	1 mg
		Panthenol (equivalent to 11.5 mg d-Calcium Pantothenate)	10 mg
		Vitamin C (ascorbic acid)	150 mg
		Vitamin D (activated ergosterol)	1,250 U.S.P. Units

Indications for THERA-VITA

THERA-VITA[®] is particularly indicated for intensive therapy in vitamin depletions or deficiencies due to, or accompanying febrile diseases, allergic disorders, hyperthyroidism, inadequate diet, surgical operations, gastrointestinal disturbances, pregnancy.

William R. Warner & Co., Inc.
New York St. Louis Los Angeles

New

concept of control in nasal congestion

Antistine-Privine NASAL SOLUTION

A combination of an Antihistaminic and Vasoconstrictor

Antistine-Privine gives prompt, prolonged relief from allergic nasal manifestations accompanying the common cold and in hay fever.

This new synergistic combination contains the effective antihistaminic, Antistine, to block the congestive action of histamine and the most potent vasoconstrictor, Privine, to shrink the nasal mucosa.

It has been established that "the decongestant action of Antistine-Privine on the allergic nasal mucosa in

many instances appears to be more intense and prolonged than from either solution alone."¹

Privine is still available, of course, for use in those conditions where the antihistamine component is considered unnecessary.

ANTISTINE-PRIVINE, aqueous solution of Antistine 0.5%, and Privine 0.25%, in bottles of 1 fl. oz. with dropper.
DOSAGE: 2 to 3 drops in each nostril 3 or 4 times daily.

PRIVINE hydrochloride, 0.05% solution in 1 oz. dropper bottles for prescription; 0.1% solution reserved for office procedures, in 1 pint bottles only.

1. Friedlander & Friedlander: Amer. Pract. 2:543, June, 1948

Ciba

PHARMACEUTICAL PRODUCTS, INC., SUMMIT, NEW JERSEY

ANTISTINE (brand of antamoline); PRIVINE (brand of naphazoline) • Trade Marks Reg. U.S. Pat. Off.

2/10024



TYREE'S

ANTISEPTIC POWDER

hygienically effective
professionally preferred

because ...



... nearly every woman patient at some time needs the assurance of a *professionally recommended* douche powder, TYREE'S Antiseptic Powder is promoted only ethically.

For routine hygiene, TYREE'S Antiseptic Powder brings cooling, soothing comfort. Its detergent action cleans thoroughly. Its low pH helps restore and maintain the normal acid pH of the vagina.

In most common vaginal infections this powerful but gentle antiseptic tends to overcome many of the usual pathogenic invaders. At the same time, its astringent properties help combat excessive flow, and thus act as an effective deodorant.

For your next patient who needs effective, non-irritating therapy, prescribe TYREE'S Antiseptic Powder. Write today for a free professional sample.

TYREE'S ANTISEPTIC POWDER

FORMULA
MENTHOL
THYMOL
EUCALYPTOL
PHENOL
BORIC ACID
SALICYLIC ACID
ZINC SULFATE (Dry)



J. S. TYREE, CHEMIST, INC.

15th and H Streets, N.E., Washington 2, D.C.

Makers of CYSTODYNE, a Urinary Antiseptic

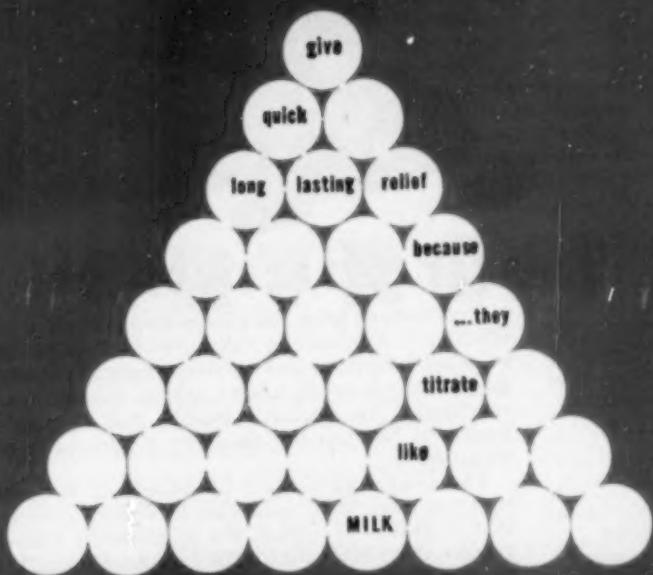


In bottles
of 2 ozs.
4 ozs.
8 ozs.

TITRALAC

(MAGNESIUM AND CALCIUM CARBONATE)

ANTACID TABLETS



TABLETS: 100 OR 1000



LITERATURE AND
SAMPLES ON REQUEST

IN CONTINUOUS THERAPY OF
GASTRIC HYPERACIDITY ESPECIALLY IN
THE HANDLING OF PEPTIC ULCER
ONE TABLET PROVIDING THE
ACID-NEUTRALIZING POWER
OF EIGHT OUNCES OF FRESH MILK

SCHENLEY LABORATORIES, INC. - 600 FIFTH AVE., N. Y. 1

Aluminum PENICILLIN.

ORAL TABLETS



Greater effectiveness

Oral therapy with Aluminum Penicillin has proved to be effective in fulminating infections such as pneumonia¹ and in other infections due to streptococci, staphylococci and gonococci.² It rarely causes gastric disturbance or allergic reactions. The patient's bodily and mental comfort is improved because the necessity for frequent injections is eliminated.

The unique advantages of Aluminum Penicillin are that it is not soluble in solutions of acidity corresponding to that of gastric secretion, but is gradually converted into a readily absorbed form in the intestinal tract. These factors provide for maximum utilization of the dosage administered, higher and more prolonged blood levels.³

Sodium benzoate is added because it inhibits the destructive action of intestinal enzymes.⁴

Each tablet contains: Aluminum Penicillin, 50,000 units; sodium benzoate, 0.3 gram. Supplied in vials of 12 tablets.

¹Terry, L. L. and Friedman, M. The Military Surgeon, Vol. 103, No. 5, November, 1948.

²Friedman, M. and Terry, L. L. Southern Medical Journal, Vol. 42, No. 6, June, 1949.

³Bohls, S. W. and Cook, E. B. M. Texas State Journal of Medicine, Vol. 41, November, 1945, p. 342.

⁴Reid, R. D., Felton, L. C. and Piroff, M. A. Pro. Soc. for Exp. Biol. and Med., Vol. 63, 1946, p. 438.

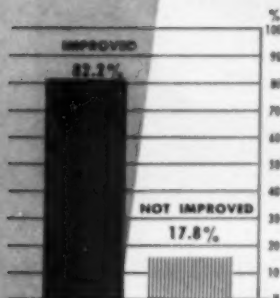
* Patent applied for.

Oral Tablets



HYNSON, WESTCOTT & DUNNING INC.

What do you look for in an antiarthritic?



EFFECTIVENESS?

With Ertron,[®] local and systemic improvement has been reported in 701 out of 852 arthritic patients. Thus beneficial results were obtained in 82%; and no improvement was noted in only 17.8%. In a disease as resistant as rheumatoid arthritis, this is truly effective therapy.¹

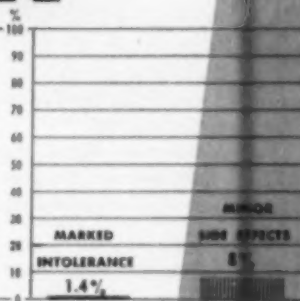
"No specificity is claimed for Ertron therapy. However, any substance which is non-toxic and which by its general systemic action does produce improved sense of well-being, diminution of soft tissue swelling, relief of pain, and improved muscle strength and which does make possible a return to gainful occupation, should be used in the treatment of arthritic patients."²

ERTRON

STERIOD COMPLEX, WHITTIER

TOLERABILITY?

Tolerance to Ertron is high in patients under periodic observation. Untoward side reactions are rare.³ In 1,020 arthritic patients, marked intolerance requiring cessation of therapy occurred in only 1.4%, while minor side effects, such as nausea, gastrointestinal upset, headache, etc., were encountered in about 8%. "These mild digestive disturbances disappear almost immediately after the cessation of Ertron administration and usually do not recur when this therapy is again instituted."⁴



Ertron is supplied in bottles of 50, 100 and 500 capsules, and Ertron Parenteral in packages of six 1 cc. ampuls. Each capsule contains 5 milligrams of activation-products having antirachitic activity of fifty thousand U.S.P. units. Each ampul contains activation-products having antirachitic activity of five hundred thousand U.S.P. units, in sesame oil. Biologically standardized.

BIBLIOGRAPHY

- (1) Magnusson, P. B.; McElvenney, R. T., and Logan, E. E.: J. Michigan M. Soc. 46:71, 1947
- (2) Levinthal, D. H.; Logan, C. E.; Kahn, K. H., and Fluhwein, W. I.: Indust. Med. 13:337, 1944
- (3) Cohen, A., and Reinhold, J. O.: Indust. Med. 17:442, 1948
- (4) Farley, R. T.; Spierling, H. F., and Kraines, S. H.: Indust. Med. 10:341, 1941

Whittier

LABORATORIES • DIVISION NUTRITION RESEARCH LABORATORIES, CHICAGO 30, ILLINOIS



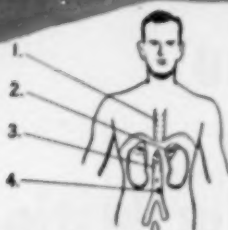


Fig. 1. Typical locations of epinephrine-producing tumors.

1. Thoracic Paraganglia.
2. Adrenal Medulla (10 per cent of tumors bilateral).
3. Abdominal Paraganglia.
4. Organ of Zuckerkandl.



Fig. 2.

Pathologic specimen of a pheochromocytoma. (Courtesy of Becker, Bass, and Robbins, Beth Israel Hospital, Newark, N. J.)

For the detection of Hypertension-producing **PHEOCHROMOCYTOMAS**

Intravenous tests with Saline Solution of Benodaine* Hydrochloride indicate whether or not elevated blood pressure is caused by an epinephrine-producing pheochromocytoma.

This new Merck diagnostic aid, when administered intravenously in suitable doses, is adrenolytic but not sympatholytic.

In patients with hypertension caused by a pheochromocytoma, Benodaine produces a brief but significant decrease in blood pressure. In hypertensive patients who do not have this tumor, it produces either no significant change in blood pressure or a moderate elevation of short duration.

Complete literature is available
upon request.

*Benodaine is the trade-mark of Merck & Co.,
Inc. for its brand of piperoxane.



MERCK & CO., Inc.
Manufacturing Chemists
RAHWAY, N. J.

SALINE SOLUTION OF

Trade **Benodaine** Mark

HYDROCHLORIDE

(Brand of Piperoxane Hydrochloride)

(2-(1-Piperidylmethyl)-1,4-Benzodioxan Hydrochloride Merck)

for Contraception

LYGENES® LYGEL®

**Contraceptive Products provide
clinically proved protection**

Normal function without anxiety, fear or devices—plus patient-cooperation.

The aim of modern contraception—to instill complete confidence—is fully realized in this line of contraceptives which provide a high degree of effectiveness. Non-toxic, esthetically acceptable, non-irritating, economical.



LYGENES

LYGEL

Special Formula Corporation
DISTRIBUTOR

445 Park Avenue, New York 22, N. Y.

LYGENES VAGINAL SUPPOSITORIES—Clinically Proved Highly Effective. Small, non-odorous vaginal suppositories which form an adhesive, effective cervical barrier in a matter of minutes. No diaphragm or other devices required. Convenient. Facilitate patient-cooperation. Economical—in boxes of 12, foil-wrapped.

ACTIVE INGREDIENTS

Hydroxyquinoline Benzate 0.30%
p-Chloro-sym.-m-dimethylhydroxybenzene 0.05%
p-tert. Amylhydroxybenzene 0.05%
Zinc Sulfocarbamate 0.50%
pH 4 (when dispersed in 4 parts normal saline)

LYGEL VAGINAL JELLY—A jelly of high spermicidal efficacy with freedom from irritation and ready patient-acceptance. Readily dispersible. Does not lose viscosity at body temperature. 3-oz. tubes.

ACTIVE INGREDIENTS

p-Chloro-sym.-m-dimethylhydroxybenzene 0.05%
p-tert. Amylhydroxybenzene 0.05%
Benzalkonium Chloride 0.10%
Lactic Acid 0.25%
pH 3.4

Literature and clinical trial packages on request.

Special Formula Corporation, Dept. NY-2
445 Park Avenue, New York 22, N. Y.

You may send me (check your preference)

1 Package LYGENES Suppositories ☐

1 LYGEL Refill ☐

N.D.

ADDRESS _____

CITY _____ ZONE _____ STATE _____



TODAY'S WORD FOR



SUPERIOR SPASMOLYSIS.

For relief of smooth muscle spasm, authoritative clinical data^{1,2,3,4,5} attest the high efficacy of Donnatal Robins'—the spasmolytic employing *natural belladonna alkaloids* in precise, optimal ratios, together with a minimum phenobarbital content.

Indeed, these facts are well established:

- (1) that Donnatal affords all the advantages of the *natural belladonna alkaloids*—yet is significantly non-toxic; (2) that it provides frequently required sedation—yet is entirely non-narcotic; (3) that it has marked pharmacologic potency—yet costs less; and (4) that its flexibility of dosage form—tablet, capsule and elixir—permits convenient, easy administration to patients of all ages. These facts make this product of Robins' research one of the safest and most dependable visceral spasmolytics available today.

FORMULA: Each tablet or capsule, and each 5 cc. (1 teaspoonful) of elixir contains:

Hyocyanine Sulfate 0.1037 mg.
Atropine Sulfate 0.0194 mg.
Hyoscine Hydrobromide 0.0065 mg.
Phenobarbital (1/4 gr.) 16.2 mg.

DOSAGE: Tablets or capsules: 1 to 3, three or more times daily (up to 9 tablets or capsules may be given within 24 hours without toxic effects).

ELIXIR: Infants: 1/2 teaspoonful two or three times daily as necessary. Children: one teaspoonful two or three times daily as needed. Adults: one or two teaspoonfuls three or four times daily.

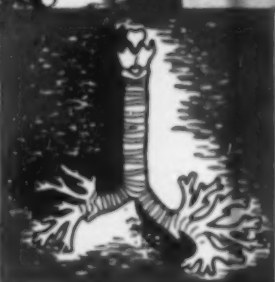
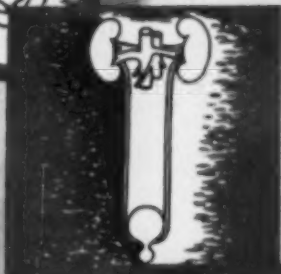
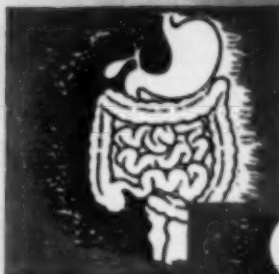
AVAILABLE: Donnatal Tablets and Capsules in bottles of 100, 500, and 1000. Elixir in pints and gallons.

REFERENCES:

1. Kilstein, R.I.: *Rev. Gastroenterol.*, 14:171, 1947.
2. Lee, L. W.: *Neb. State Med. J.*, 34:59, 1949.
3. Morrissey, J. H.: *J. Urol.*, 57:635, 1947.
4. Rieck, J. V.: Contributions from Dept. of Gynecology, City Hospital, New York, 1946, New York Medical College, New York, 1947.
5. Stephens, G. K.: *J. Okla. State Med. Assn.*, 42:248, 1949.

A. H. ROBINS CO., INC. • RICHMOND 20, VA.

Ethical Pharmaceuticals of Merit since 1878



INDICATIONS: Spasm of stomach, intestines, uterus, bronchi, coronary; Colic of gallbladder, bile duct, ureter; Tenesmus of urinary bladder.



For over-the-counter relief of spasms with natural sedative action

Rx
Donnatal



Convenient

for you...

for your patient

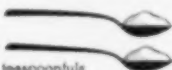
the saline laxative—



APERIENT. one teaspoonful



LAXATIVE. two teaspoonfuls



CATHARTIC. three teaspoonfuls



Whether your patient needs a laxative, or an aperient, or a cathartic you'll find it more convenient to write Sal Hepatica on your prescription pad. No need to specify all the ingredients of three separate formulas, just prescribe Sal Hepatica and indicate the dosage.

Your patients will find Sal Hepatica convenient, too. No cluttering of shelves with bottles of different laxatives when one will serve. They'll like its pleasant taste, its effervescence—and, of course, its prompt, gentle action.

a product of **BRISTOL-MYERS**

19 West 50 Street, New York 20, N. Y.

NEW...

**A Positive
Approach in the
Medical
Management of
PEPTIC ULCER**

ALLUCEE

PATENT PENDING

ALLANTOIN, ASCORBIC ACID, AND ALUMINUM HYDROXIDE GEL—KREMERS · URBAN

More than just another antacid or protectant, ALLUCEE® actually promotes faster, better healing of the ulcer, while it aids in controlling the distress of hyperacidity. One ALLUCEE capsule provides:

**ALLANTOIN
60 mg.**

*To stimulate granulation and
accelerate healing*

**ASCORBIC ACID
50 mg.**

*To strengthen scar tissue
and reduce capillary fragility*

**ALUMINUM HYDROXIDE
GEL (Dried) U. S. P.
100 mg.**

*To enhance the buffering and
protectant action of gastric mucin*

USES: Bottles containing
100 and 1,000 capsules.
Literature and samples on
request.

*Trademark of Kremers-Urban Co.

K-U

Kremers · Urban Co.

Pharmaceutical Chemists Since 1894

MILWAUKEE 1, WISCONSIN

Fastidious Frank

IS A
VITAMIN-BLANK



If food *looks* good, says Frank, perforce—it's good *for* you. But a finicky appetite can often unbalance the delicate scale of nutrition. Frequent result: sub-clinical vitamin deficiency.

You find Frank's first cousins everywhere—the hurriers, the worriers, the smokers, the toppers—each contributing in his own way to the nation's high percentage of underfed and misfed,

regardless of age or economic rank.

Isn't it sound, then, to suggest that your vitamin-deficient patients supplement their diet with easy-to-take DAYAMIN capsules? Note the DAYAMIN formula. One capsule daily as a supplement; two or more for therapeutic use. Available in bottles of 30, 100 and 250 at all prescription pharmacies. Abbott Laboratories, North Chicago, Ill.

Each Dayamin capsule contains:

Vitamin A	10,000 U.S.P. units
Vitamin D	1000 U.S.P. units
Thiamine Hydrochloride	5 mg.
Riboflavin	5 mg.
Nicotinamide	25 mg.
Pyridoxine Hydrochloride	1.5 mg.
Pantothenic Acid (as Calcium Pantothenate)	5 mg.
Ascorbic Acid	100 mg.

Prescribe

DAYAMIN[®]

(ABBOTT'S MULTIPLE VITAMINS)

Recent Advances in Tropical Medicine

Sir Philip Manson-Bahr,

British Consulting Physician in Tropical Diseases; former Consulting Physician to Britain's Colonial Office and Crown Agents for the Colonies.

That present health problems which fall upon the shoulders of Britain's Colonial Governments are immense, intricate, and burdensome no one can deny. In the tropics unceasing war is being waged, not only against the diseases which are peculiar to warm climates, but also against that whole array of scourges which afflict mankind. There tuberculosis, for example, assumes a deadliness unknown elsewhere. There, too, malaria takes first place as captain of the men of death. Until recently this was considered the commonest disease in the world, constituting the chief bar of progress and development; but now it can be claimed that it has been to a great extent arrested and that ultimate victory is in sight. Let us consider how this transformation has been achieved.

When, some fifty years ago, the mosquito-transmission of malaria had been proved beyond doubt, its eradication at that time appeared comparatively simple. It spelled, in fact, the destruction of mosquitoes wherever malaria was rife, though it soon had to be accepted that this was an impossible task. As the result of intensive studies by entomologists in many lands, it became evident that for some biological reasons only a small number of anopheline mosquitoes are capable of transmitting malaria from man to man, and that each of these favors certain breeding places and maintains peculiar feeding habits, so that by concentrating attacks upon them, within the limits of their own peculiar haunts, some success might be obtained. This method was aptly termed "species sanitation."

The operative procedures entailed in carrying out these measures differed widely in different countries. In Malaya, for example, some species have been to a great

extent eliminated by altering the environment of their breeding waters. Some are partial to shade and concealment; others court the sunlight, and so on. At the present time, anti-malarial campaigns have been completely revolutionized by the application of D.D.T., an insecticide which has proved itself to be the most efficient weapon yet discovered.

Malaria is Receding

Throughout the whole of Equatorial Africa, *Anopheles gambiae*, a common as well as the most dangerous carrier of malaria, flourishes in almost every collection of water, however polluted or foul. Until two years ago, the possibility of eradication of this small insect from such an immense area appeared fantastic, but now with the example of the successful campaigns in Sudan and Upper Egypt before us, and with the introduction of other insecticides, such as gammexane, malaria is rapidly becoming a rarity in what was formerly known as the white man's grave. Malaria, indeed, is receding wherever the spraying of mosquito breeding-grounds is being undertaken. It was recently announced that the island of Cyprus has been freed from the menace after a brief D.D.T. campaign ably directed by Dr. Horace Shelley, Dr. M. Aziz and Professor George Macdonald, which has served as a model for the world.

In British Guiana, Dr. George Ciglioli, O.B.E., has been almost equally successful in an even more remarkable feat, but there he had to deal with vast alluvial plains with rice and cane-fields, swamps and waterways stretching for hundreds of miles. The brunt of this attack was directed against the two most dangerous species—*Anopheles darlingi* and *A. aqua*.



(Left) Britain's Colonial Medical Service is striving to stamp out malaria which to a great extent has been arrested. A Polish major and a British sergeant with the help of 900 African labourers are fighting the malaria-carrying mosquito on the island of Meridan Point, near Lagos Harbour, Nigeria, West Africa. (Right) Large-scale draining of the swamps is wiping out malaria in the Lagos area, Nigeria, West Africa. Britain's Army, Royal Air Force and civilian doctors, engineers and sanitary inspectors are combining to stamp out the disease.

salis—by spraying huts and dwelling houses which they frequented with D.D.T. In spite of the fact that both these dangerous species have entirely different breeding habits—one breeds in fresh water, the other in brackish—within the space of two years they have been brought to the verge of extinction and concurrently malaria has practically disappeared.

Fight Against Sleeping Sickness

When we turn to trypanosomiasis, or sleeping sickness, there is also a stirring tale to tell. The trypanosome is a small tadpole-like creature which lives in the blood and is transmitted by vicious and bloodthirsty tsetse flies. These insects are confined to Equatorial Africa, and wherever they abound they spell death to man and his domestic animals.

It is estimated that of the 65,000,000 of natives of tropical Africa, no less than 2,000,000 are infected with the deadly trypanosome. On account of this, only two-fifths of the enormous territory of Tanganyika are suitable for settlement and development; the rest is one vast fly-belt. Some twenty-one species of tsetse are known to science, of which some six are adapted to the conveyance of 'the germ

of sleeping sickness; and it has now been discovered that for each species of fly certain plant associations and climatic conditions are essential in order that it may flourish.

The fight against sleeping sickness has been long and protracted. Whole populations have been transplanted from danger areas, and the ingenuity of many devoted entomologists has been taxed to the utmost to discover methods of controlling the fly. Vast schemes for destroying their breeding places have been put into execution. D.D.T. "smoke" spread by aircraft has indeed achieved some local and temporary success. Powerful curative drugs, such as antrypol and tryparsamide, have been discovered and freely used; but the battle is not yet won.

The epic of the Anchau corridor has now been told. The market town of Anchau in North Nigeria in the Emirate of Zahaia has always constituted a hot-bed of sleeping sickness and, owing to its filthy and insanitary state, a danger to the community. To free this area from sleeping sickness, 700 miles of country had to be cleared of bush and, within the space of ten years, the native population had

—Continued on page 75

SPECIAL ARTICLE

Review of New Developments in Therapy and Diagnosis for 1949

(Concluded from last month)

This summarization attempts to review the essential information on new developments during the past year and is designed as a time-saving refresher for the busy practitioner.

Reprints available*

DIAGNOSTIC AIDS

Diagnosis is based only on the symptoms and appearance of the patient in some diseases. In others there are available tests which, although in some cases not conclusive, at least point the way to the proper diagnosis. A number of such diagnostic tests have been developed in the past year.

Liver Diseases and Others

Two drops of blood and a minimum of equipment are all that are necessary to perform a simple, quick test which is an aid in diagnosing liver diseases, tuberculosis and other conditions. It is based upon the amount of individual plasma proteins in the blood. The blood drops are first mixed with a solution of sodium sulfate and then poured into a glass tube packed with diatomaceous earth. By pouring the sodium sulfate solution through the tube the albumin of the blood is removed. The other plasma proteins are then removed separately by washing with different salt solutions. The quantity of each protein present can then be determined by the amount of ultraviolet light absorbed when they are exposed to these rays. Because cirrhosis, cancer of the liver and tuberculosis disturb the protein balance in the blood this can be determined. Tuberculosis or other lung

disorders will be evidenced by a high content of fibrinogen.

Cancer Tests

a. Hormone Substances

At present there is no simple self-test for the early detection of cancer as there is for diabetes. However, considerable research has been directed toward this goal with the result that new and more simplified tests, although not for use by the individual, have been devised. In the meantime tissue smears, determination of sedimentation rate, occult blood and gastric analysis are still useful in confirming the diagnosis. Only recently it was reported by the Sloan-Kettering Institute for Cancer Research that through use of new technics involving the obtaining of so-called "fingerprints" of hormone substances by means of infra-red light it was possible to obtain the print of a strange hormone that shows up in most cancer cases—either before detection of the disease or during the course of the disease. It is believed that this derivative comes from the adrenal glands. It was demonstrated in the excretions of 9 out of 10 cases of cancer of the prostate, 4 out of 4 of cancer of the larynx, 2 of 2 cases of breast cancer, 1 of 1 case of cervical cancer and 4 of 4 lymphatic leukemia patients.

b. Plasma Reducing Power

One of the most recently developed tests

* From the Editorial Research Department of the Medical Times, 67 Wall Street, New York 5, N. Y. Permanent library binders, sufficient to hold 24 different "refresher" reprints, sent postpaid, \$2.50.

for which the materials have been made available commercially is that for determining the reducing power of plasma. It has been found that the plasma of patients with cancer generally requires a longer time to decolorize a solution of methylene blue than does the plasma from patients free of malignancy. Exceptions are found in those persons afflicted with tuberculosis, active rheumatic fever, pregnancy, and possibly those with cirrhosis of the liver and those receiving penicillin. A second test with brilliant cresyl blue is used on borderline diagnoses. It has been found that adequate therapy reversed the characteristic alterations in reducing power. The two solutions therefore can be used to follow response to treatment as well as to diagnostic tests.⁶⁴

c. Tumor Diagnosis

A tumor diagnosis kit recently was developed from the studies of Dr. A. Gladstone to facilitate diagnosis of cancer in accessible regions of the body such as lesions of the skin, mouth, bronchi, lower bowel, cervix and uterus. Each kit contains two sterile biopsy swabs and one 33 cc. bottle of fixative solution (Formaldehyde Solution, U.S.P., 1:10). A mailing carton and gummed address label are furnished to facilitate sending the specimen to the pathologist. The label of the formaldehyde solution vial and the package insert provide space for pertinent information concerning the swab material, and the history of the patient from whom the biopsy material was taken. In carrying out the Gladstone sponge biopsy technique, the swab is clamped along one margin of a surgical sponge forceps. The ulcer is wiped clean with dry sterile gauze and then the dry sponge is rubbed gently over the area. After the sponge becomes wet, it is pressed more firmly against the lesion with slight rubbing. The cells from the area will adhere to the sponge surface. The sponge is then placed in the formaldehyde fixing solution and sent to the laboratory where it is subjected to routine tissue sectioning technique. The cells adhering to the swab may then be examined microscopically and identified.

d. Serum Proteins

Huggins and his colleagues have been investigating the relationship of serum proteins to human cancer. They found that frequently these proteins are deficient in quantity and abnormal in kind. The qualitative abnormalities cannot be defined in a precise fashion but they can be recognized as present when the serum proteins are subjected to heat because of the defective coagulation. Although this is not specific as a diagnostic instrument it is useful in helping to confirm the diagnosis. Unfortunately there are false positive reactions in this test which may make it difficult to interpret. Sera from pulmonary tuberculosis and from cancer patients coagulate in much the same manner and serum from patients with benign tumors coagulates in the normal manner.

Cancer appears to produce a defect in the coagulative capacity of the serum proteins with respect to those linkages available for coagulation when the serum is heated. It was first necessary to determine the smallest amount of protein which would undergo coagulation.

Because iodoacetate inhibits clotting of serum proteins this substance was used to develop an index which relates the inhibition of clotting by iodoacetate to the quantity of protein present in serum and therefore to the total availability of those linkages necessary for coagulation. In these tests it was found that patients with cancer had an index of less than 9 whereas normal patients showed an index higher than this. However, there were some patients with non-malignant but nevertheless serious diseases who also showed low indices. This defect in coagulation was not observed in normal pregnancy, in new-born infants, or in non-pulmonary tuberculosis.

Although these tests are still highly experimental it is possible that future investigations and further improvements may make them of great value in the diagnosis of cancer and other serious diseases.

e. Effectiveness of Therapy

Very recently it was announced that a simple, quick and inexpensive method for

measuring the effect of therapy on cancerous tissue had been developed. This procedure is based on an analysis of blood components. Not only can it be used to determine whether a new treatment will be effective but also it can be used to show the progress of individual patients.

There are present in the blood two enzyme inhibitors which prevent the enzymes from doing too much work as for example when they break down not only food but also the digestive tract tissues. The two enzymes which are inhibited are rennin, a milk-curdling enzyme in the stomach, and chymotrypsin, a milk-digesting enzyme in the pancreas. Presence of the inhibitors of the two enzymes is indicative that cancer is present somewhere in the body. When the cancer is actively growing analysis will reveal that more of the chymotrypsin inhibitor is present than of the rennin inhibitor. As the cancer growth diminishes the quality of rennin inhibitor increases and the quantity of chymotrypsin inhibitor decreases. Thus the changes in the ratio of these two substances can be determined by successive tests. From the changing ratio the developments in a cancer patient can be measured. This test is believed to be applicable to all of the standard forms of cancer such as tissue growths and also in leukemia.

It can be completed in 24 hours and can be performed by trained laboratory technicians. In the past the only means of testing for the progress of a cancer or for the progress of treatment has involved a considerable period of time. In many instances an operation was necessary if the cancer was internal. Death of the patient frequently was the only sign that the cancer had renewed its activity. Generally, five years' time is allowed to lapse before it can be stated definitely that a cancer has been arrested in its growth. This test of enzyme inhibitors like other tests is not conclusive in conditions such as pregnancy, tuberculosis and similar infections and after surgery where there is extensive tissue growth. However, since the presence of these conditions is obvious erroneous diagnosis is generally not likely.

It is suggested that this test may be ap-

plied more extensively in checking tissue biopsies which are used to determine the severity of the malignancy. In determining the effectiveness of therapy it has shown considerable differences in the efficiency of x-ray in various cases of breast cancer. Some workers have hopes that use of this test may accelerate the development of proper therapy because it is now possible to determine whether the right procedure for the individual case is being followed.

Coccidioidomycosis test

Coccidioidomycosis is a disease of the lungs caused by *Coccidioides immitis* and in its initial stage resembles pulmonary tuberculosis. For this reason it is not always diagnosed properly. Recently there has been made available a filtrate extract which can be used for skin testing in a fashion similar to intradermal tuberculin.⁶⁶

Pregnancy Tests

The Aschheim-Zondek and Friedman tests are wellknown in the diagnosis of early pregnancy. Some years ago another test was developed using the adult isolated female African clawed frog.



Fig. 1. Method of injecting urine into frog's dorsal lymph sac in test for pregnancy.

a. Hogben Frog Test

Although some have used the unconcentrated urine in the Hogben frog test it may result in the frog's death so that it is preferable to use a powder prepared by acetone precipitation from 80 cc. of a morning urine specimen. The powder is taken up in 2 cc. of water and the whole injected into the dorsal lymph space. Examination of the animals in 6 to 12 hours will show the extrusion of a large number of eggs into the water of the tank if the test is positive. This test is 98 to 99 per cent accurate. Recently it was found that the male North American frog, *Rana pipiens*, could be used for determining pregnancy. Some prefer to inject 5 cc. of the filtered morning urine into the dorsal lymph sac whereas others believe that 1 cc. of a concentrated form made from 100 cc. of morning urine should be used. After $\frac{1}{2}$ hour the frog is grasped firmly in the left hand and the

right leg held between the thumb and index of the right hand and the leg drawn up to the frog's side. The cloaca is then touched to a clean glass slide so that some of the cloacal fluid is obtained. This is examined for the presence of sperm cells which indicate a positive result. The test not only is 99 per cent accurate but it is also inexpensive; the animal is easily available; and the time interval involved is short. The frog should be discarded after use because it may give a false-negative test after a positive test.

b. Two-Hour Rat Test

The test believed to have the greatest accuracy is the two-hour rat test using immature female rats, 21 to 55 days old and weighing 30 to 80 Gm. A dose of 2 cc. of unconcentrated urine, not necessarily a morning specimen, is injected intraperitoneally into the lower right and left abdominal quadrants. After two hours the

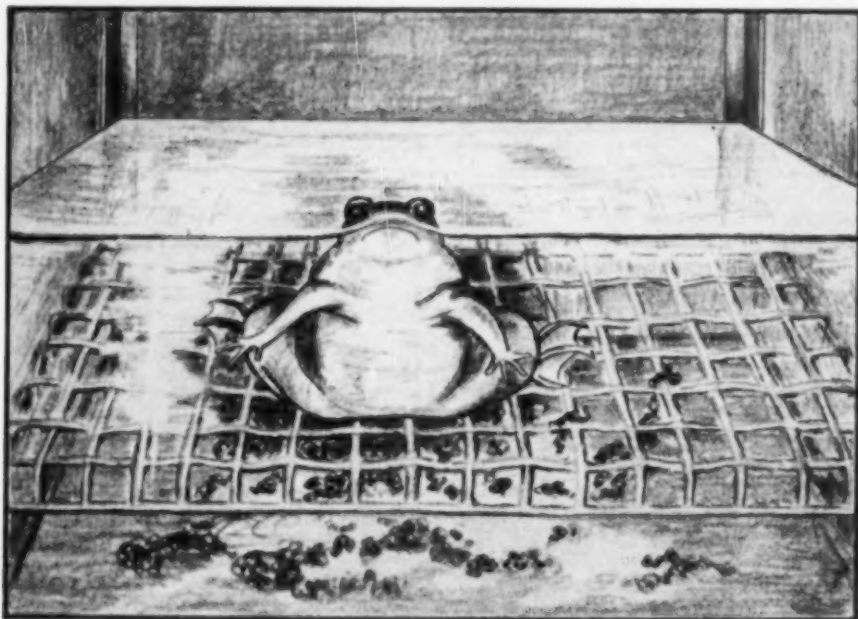


Fig. 2. Positive result in Hogben frog test. A large number of eggs are deposited after 6 to 12 hours.

rat is asphyxiated with ether (other agents may produce false positive readings). The viscera are exposed without loss of blood and the ovary examined with as little trauma as possible to the surrounding tissues. A positive result is indicated by ovarian hypermia. However, a positive reading cannot be expected unless the test is performed at least 1 week to 10 days after the missed menstrual period or 21 to 35 days after conception has taken place. This is true of the other urine tests also. hTe test is 99.5 per cent accurate, excluding cases of ectopic pregnancy. The test animals are readily available and the age and weight can vary considerably in contrast to the close specifications of the other tests. The urine is easily administered and the test can be performed in 2 or 3 minutes. The endpoint is easy to read and does not require a great deal of experience for accuracy. The patient is not inconvenienced or made uncomfortable in the collection of the specimen. The urine does not have to be purified, concentrated or its pH changed. A morning specimen is preferable but not absolutely necessary.



Fig. 3. In the use of *Rana pipiens* for the frog test the frog's cloaca is brought into contact with a clean microscope glass slide. The cloacal fluid thus obtained is examined for the presence of sperm cells.

MEDICAL TIMES, FEBRUARY, 1950



Fig. 4. Sperm cells in cloacal fluid indicating positive reaction, X 800

All of these tests, of course, are based upon the presence of gonadotrophic hormones which are characteristically present in urine during pregnancy. False positive reactions may be observed if gonadotrophins or certain other hormones are being given to the patient or if there are rare tumors of the ovary, pituitary or adrenal cortex present.

Tuberculosis Test

Corpor has developed a new test for tuberculosis which should be of value in mass testing. It is quicker than the patch test and does not irritate the skin as the latter does. It is considered as 80 to 86 per cent accurate. The testing material is composed of a new tuberculin in a quick-drying base. It is applied to the skin, allowed to dry and after 24 hours it is peeled or washed off. A positive test is indicated by redness and small blisters. The material used resembles nail polish in its texture.⁹⁷

X-ray Medium

A patent has been issued within the past year for a new pectin paste as an x-ray medium. The compound consists of a paste of pectin, glycerin, benzoic acid, and a physiological salt solution, mixed with barium sulfate. It is stated that it produces no clinical after-effects or side reactions, is soothing and non-irritating to mucosal tissues, contains no irritating gums or

resins, and is miscible with the contents of the digestive tract without affecting its chemistry. It is anti-fermentative, more adherent to the rugae of the intestinal tract and gastro-enteric mucosa, and insures evenness of distribution of barium. The new medium is in fine evenly-dispersed suspension and insures evenness of flow through the intestinal tract without causing sagging or pocketing of barium salts in the loops of the intestines or in the rugae of the intestinal tract.

Pancreatic Dysfunction and Biliary Disease

A hormone, secretin, elaborated by the mucosa of the small intestine, is useful in diagnosis of pancreatic dysfunction and biliary disease.

Syphilis Test

Syphilis is another disease which is sometimes difficult to diagnose because malaria and other conditions tend to produce false positive reactions. Consequently considerable research has been directed to a search for an antigen which would be more specific. Recently the Venereal Disease Research Laboratories of the United States Public Health Service announced the development of such an antigen. It consists of an alcoholic solution containing cardiolipin 0.03 per cent, cholesterol 0.09 per cent and a sufficient quantity of lecithin to produce standard reactivity. It may be employed in either a slide or test tube with serum and spinal fluid and is adapted for use in large scale surveys. It is wholly effective in detecting syphilis in the presence of malaria and other conditions and has been recognized officially by many major cities as an acceptable blood test for marriage licenses and food handlers' certificates. Many large industrial organizations are using the antigen in pre-employment examinations.

DIURETIC

The mercurial diuretics have been employed for many years to control edema in cardiac therapy. However, those available have always required parenteral ad-

ministration. Recently there has been made available sodium methoximercuripropylsuccinylurea with theophylline and ascorbic acid in tablet form for oral administration. Although these tablets may be used alone in some instances for maintenance therapy they generally will serve best as a supplement to parenteral administration. With parenteral administration, the new oral product permits reduction in the number of injections and longer intervals between treatments. For the ambulant cardiac, oral diuretic therapy is of decided advantage to both the patient and the physician. Its use facilitates the frequent dosage schedules of modern diuretic therapy. Addition of the ascorbic acid increases the tolerance to and potentiates the action of the mercurial.⁶⁰

DRUGS USED FOR EFFECTS ON HIGHER NERVE CENTERS

Epilepsy is a condition for whose therapy a number of drugs have been developed; these drugs have achieved varying degrees of success in treatment. Some few years ago a new synthetic drug, trimethadione (3,5,5-trimethyloxazolidine-2,4-dione), was announced and produced startling results in the control of petit mal, myoclonic and akinetic epilepsy. It appeared to have considerable advantage in many cases over the existing methods of therapy. Recently a homolog of this compound, paramethadione, has been made available. It differs only in the substitution of an ethyl for a methyl group of carbon 5. The drug is an oily liquid, slightly soluble in water, but quite soluble in alcohol. It has the same indications as trimethadione. Some patients whose seizures are not controlled by the trimethadione can be improved with paramethadione, and vice versa. Like its homolog, the new drug is contraindicated in patients with severe renal or hepatic disorders. The dosage is based on the response of each patient. For older children and adults the initial dose is 0.9 Gm. daily in divided doses. The amount should be increased or decreased according to the response or the occurrence of undesired side-effects. Side-effects resulting from paramethadione therapy appear to be fewer in

number and less severe than those accompanying trimethadione administration. Photophobia, the most frequent reaction to trimethadione, is infrequent with the new drug.⁷⁰

DRUGS USED IN THE TREATMENT OF CANCER AND LEUKEMIA

Pteroyl Glutamic Acid Compounds

The pteroyl glutamic acid compounds have been studied for several years for their possible effects in cancer and leukemia. Further investigations still are being conducted to determine their effectiveness. Recently considerable attention has been focused on another drug (N-[p-(2,4-diamino-6-pteridylmethylamino)-benzoyl] glutamic acid) recently developed. It is now under clinical trial. Although not a cure for leukemia, it does slow down the disease, particularly in children, and allows them to lead a fairly normal life, provided periodic treatments are continued. It is believed to be the first drug really to arrest this cancer of the bloodstream.⁷¹

Testosterone

Use of the male hormone, testosterone propionate, in large doses has been found to affect, in a striking manner, cancer of the female breast. In some cases the primary lesion and the soft part metastases regress. Osseous metastasis increases in calcification, and pain disappears concurrently with osteoblastic changes. Although there are no toxic effects a certain degree of masculinization may develop. The dosage given is 50 mg. daily or 100 mg. on alternate days for a total weekly dosage of 300 mg.⁵⁵

HORMONES

Although several new developments in the hormone field have been considered elsewhere, there are a few specific developments which can be grouped under this heading.

New Tablets

A new type of tablet has provided a

new means of administration of hormones such as testosterone propionate, progesterone, estradiol and desoxycorticosterone acetate. Incorporated in a solid solvent for steroid hormones, it is possible to obtain, with these hormones orally, the same effects as obtained from intramuscular injections. They owe their effectiveness to the fact that the hormone is absorbed into the systemic circulation through the buccal and sub-lingual mucosae, by-passing the liver and the portal circulation. They are for use in the same conditions as the parenteral dosage forms. The tablet is placed well into the lower space, adjacent to the buccal surface of the gums, opposite the first molar tooth. It is absorbed in 30 to 60 minutes. Once placed, the tablet should not be disturbed with the tip of the tongue. Eating or drinking is restricted until complete absorption of the tablet has occurred. However, the patient may talk or swallow *ad libitum*. These tablets do not stimulate salivation. Mid-morning, mid-afternoon and before retiring are the best times for administration of this medication.^{71a}

The water soluble hormones are available in ordinary tablet bases for buccal and sublingual administration.^{71b}

Pituitary

In January of 1949 it was announced that the recently purified adrenocorticotrophic hormone produced by the pituitary gland possessed a marked growth-inhibiting action. No immediate application of this property to human medicine was possible at the time, but it was found that the hormone possessed important effects on the lymphoid system which is responsible for producing some of the white blood cells. Administration of the hormone to rats resulted in an almost complete disappearance of one organ in the lymphoid system, the thymus, and marked degeneration of the entire system. Although the hormone itself is not a growth inhibitor, it stimulates the adrenal glands to secrete other hormones which are directly responsible for retarding growth, according to Dr. B. L. Baker of the University of Michigan School of Medicine. Although

not applicable at present to human medicine these studies are of value in increasing the understanding of how the body controls growth. Further work is being conducted to learn how and if the pituitary gland, acting through the adrenal gland, may play a part in the control of cancer, a disease characterized by the abnormal growth of body cells. The pure hormone was first isolated by Dr. C. H. Li of the University of California. Dr. Baker had as his collaborator Dr. D. J. Ingle.⁷²

In later months experiments with another growth hormone isolated in 1944 were revealed by Drs. H. M. Evans and H. Becks of the University of California. This hormone, also from the pituitary gland, has been found to produce giant rats that remained young even though they had reached an age equivalent to 100 for humans. Studies of the organs revealed that the liver, stomach, intestines, kidneys and heart were big but of the right proportions, body size and weight considered. However, the reproductive organs had decreased in size, and the adrenals and the pituitaries had increased in weight, but not in proportion to the gain in bodily weight. Certain of the bone formations were characteristic of acromegaly.

Still another pituitary hormone has been isolated by Dr. Li. Known as FSH or the follicle stimulating hormone, it is believed to play a key role in both male and female fertility. This hormone is believed to stimulate the growth of the ovarian follicles, making possible ovulation, the discharge of the egg, out of which, after fertilization, the new life develops. In the male it is believed to stimulate the glands which produce the sperm. This discovery will open the way for more detailed studies of the reproductive cycle and for new research in the physiology of reproduction.

Sex Hormones

Still more recently a new method of treating gigantism and acromegaly was reported by Drs. L. W. Kinsell, G. D. Michael, C. H. Li and W. E. Larsen at the University of California Medical School. Although the growth hormone of the pituitary gland is solely responsible for

growth in childhood, the steroids or sex hormones from the gonads and the adrenal cortex are responsible from puberty on. These steroids, at the same time, suppress the action of the growth hormone. If the steroids fail to suppress growth, the hormone output in puberty and in adolescence proceeds. Acromegalic gigantism is the result. If normal puberty and adolescence are followed by an overactive pituitary condition, growth may persist after maturity and result in acromegaly. Used both in diagnosis and for determining the effectiveness of therapy is the fact that there is an increase in the amount of inorganic phosphorus in the blood both of acromegalics and of pre-pubertal children but not in normal adolescents or adults. A drop in the phosphorus level in an acromegalic patient is an indication that treatment is effective. This test is verified by the fact that there is a corresponding rise in the amount of pituitary growth hormone in the blood in untreated acromegalics and a drop when effective treatment is given. Although not so certain as the phosphorus test it is promising.

Because of these findings the California workers began therapy of 2 female patients having acromegaly with testosterone propionate and ethinyl estradiol. Improvement resulted, and the phosphorus and pituitary-growth hormone levels in the blood dropped. Thus another use for the sex hormones is possible.

Several new hormone products have been made available in the past year, but only a few employ a new principle.

MOTION SICKNESS

New Compound

The value of many drugs in the therapy of certain conditions is often discovered accidentally. Such is the case with a new drug, β -dimethylaminoethyl benzohydryl ether 8-chlorotheophyllinate. In 1947 this drug was presented to the Allergy Clinic of the Johns Hopkins Hospital and University to be tested for its value as an antihistaminic in the therapy of hay fever and urticaria. One of the first patients to be given the drug was a pregnant woman who

not only had urticaria but also had suffered from carsickness her entire life. It was found that this drug not only relieved the urticaria but also the carsickness, and after further study an investigation of the drug's effect on seasickness was begun. With the cooperation of the Chief of Staff and the Surgeon General of the United States Army a study was begun on a group of the 1,366 soldiers aboard the United States Army Transport "General Ballou." It was found that the drug not only prevented seasickness in those to whom it was given at sailing time, but that it also relieved the seasickness after the symptoms had developed even in the severest cases. Further studies have shown this drug to be of value also in air-sickness and other types of motion sickness.

A very recent report from the Mayo Clinic has stated that this drug also has value in an entirely different field as well. Patients who undergo x-ray or radium treatments for cancer or leukemia frequently develop radiation sickness, which is characterized by nausea, loss of appetite, weakness, exhaustion or prostration. The drug was given to 82 patients who suffered marked nausea after radiation therapy, and in 65, good to excellent relief was obtained. It was given both before and after therapy. Thus a drug which started out as an antihistaminic is proving to be useful in various fields of therapy.⁷³

New Drug

Another drug which exerts a protective and therapeutic action against motion sickness in human beings without undesirable side-effects is ethyl- β -methylallylthiobarbituric acid. The best results are obtained when it is started 24 hours before exposure to motion. A dose of 0.15 Gm. ($2\frac{1}{2}$ grs.) is taken immediately after breakfast and a second dose of 0.15 Gm. immediately after the evening meal. Absorption of the drug is prolonged when it is taken with a meal. The total daily dose should not exceed 0.45 Gm. Duration of protection after the drug has been discontinued is 15 to 18 hours. Treatment should

not be continued for more than five days at a time, and impaired liver function is a contraindication.⁷⁴

NEW TECHNIQUES

Acne Therapy

Acne is a disfiguring condition which requires, in many cases, extensive therapy often resulting in scars. The use of dry ice in this type of therapy has been reported. Application of small pieces of dry ice to the pustules for 3 to 5 seconds produces good results. In those cases where the lesions are numerous a larger piece may be applied to a group. If the proper amount of pressure is applied, the skin between the lesions will not be harmed. After application of the dry ice the lesions blister within a few hours, then dry and shrink, resulting usually in involution with little or no scarring.

Artificial Kidney

Artificial kidneys have been employed for some years in certain types of kidney disease to allow the diseased or injured kidney to rest. But in most cases the artificial kidneys used are so large and cumbersome that their use is difficult. Recently Drs. J. A. Sterling, L. B. Weiss, A. Schneiberg and J. C. Doane and engineers W. and R. Bernard of Philadelphia developed a new artificial kidney made up of plastic plates separated by thin sheets of cellophane. Grooves cut into the plastic serve as channels in which the blood flows on one side of the cellophane membrane; a "perfusate" solution of glucose and salt in distilled water flows on the other side. When the two streams run through the apparatus, nitrogenous waste products are transferred from the blood to the perfusate by osmosis. When it is to be used, a tube is inserted into an artery in the left wrist of the patient and connected to the artificial kidney. This is placed below the level of the wrist, and a suction pump is attached to the exit valve to aid the heart in forcing through the blood. The perfusate is pumped through in the same or opposite direction to the flow of blood. After the blood

flows through the artificial kidney, it is collected in a flask and returned to the body through a vein in the right wrist. In order to compensate for the temporary removal of fluid a transfusion of plasma or blood is given. In this manner the blood is cleansed, and the patient's kidneys given a rest so that, in many instances, they are able to resume adequate functioning.

Respirator

A completely new kind of respirator recently was tried in the alleviation of bulbar poliomyelitis, the most dangerous form. In this type of poliomyelitis the iron lung is contraindicated because its rhythmic pumping may interfere with the patient's irregular breathing. For this reason at the Children's Hospital in Boston it was decided to try a new respirator composed of an electronic apparatus which produced normal breathing by direct stimulation of the phrenic nerve leading from the brain to the diaphragm. This respirator, developed by Drs. S. S. Sarnoff, J. L. Whittenberger, and Esther Hardenburg at Harvard University's School of Public Health, consists of an electrode and a compact control box which serves to regulate the electric pulses which cause the rhythmic contraction of the diaphragm. This piece of apparatus will not replace the iron lung but will have its own specific uses in various conditions other than poliomyelitis, such as the maintenance of respiration during brain surgery, in emergency cases and in aiding newborn babies to take their first breath.

Hypodermoclysis

Repeated sterilization of the equipment for hypodermoclysis is a problem in the hospitals, and in some cases complete sterilization is not always accomplished. For this reason there has been developed a completely disposable hypodermoclysis unit for the subcutaneous administration of fluids. The unit consists of a dispensing cap, air filter, Murphy drip, plastic tubing with a "y" assembly, two pinch clamps and needle adapters with protective covering.

It is packed sterile, pre-assembled and ready for use. All equipment, except needles, is discarded after use.⁷⁶

PARASYMPATHOMIMETIC

Urethane or β -methylcholine chloride or bethanechol chloride is a new and potent parasympathomimetic drug used for the prevention or alleviation of distressing postoperative gas pains and abdominal distension due to loss of smooth muscle tone. Clinical tests have shown that bethanechol chloride is extremely helpful in many cases because it improves muscular tone and stimulates normal rhythmic peristalsis. In a limited investigation in the treatment of megacolon, certain patients have responded favorably, a few obtaining complete symptomatic relief. The drug has proved valuable also in the relief of symptoms which often follow vagotomy, one of the operations sometimes performed for peptic ulcer, and frequently it is useful to prevent or relieve postoperative urinary retention. It is given orally or subcutaneously.⁷⁷

PRURITUS

Adenosine-5-monophosphate

A new approach to effective treatment of pruritus was recently announced. In the majority of cases studied thus far, adenosine-5-monophosphate has produced complete subsidence or marked amelioration of symptoms. Beneficial results have been reported in generalized pruritus, pruritus ani, pruritus vulvae, pruritus scroti and in cases of Hodgkin's disease, dermatitis herpetiformis, diabetes mellitus, obstructive jaundice and hair dye sensitivity. It is thought to correct the altered phosphorylation mechanism responsible for pruritus and certain forms of skin disease. This unique biochemical is intimately related to basic life processes and is a vital metabolic link in muscular contraction and enzymic reactions. Clinical and pharmacological studies indicate an important role for this compound in the treatment of vascular disturbances, cardiovascular disorders and degenerative diseases.⁷⁸

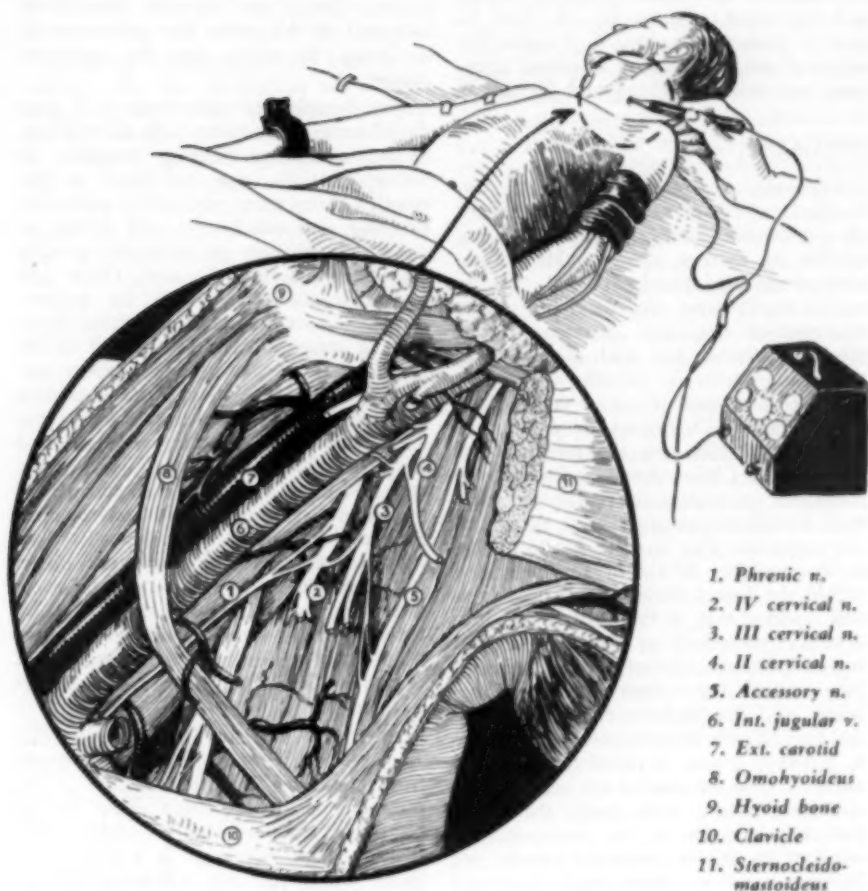


Fig. 5. Respirator used in bulbar poliomyelitis. Contact between an electronic apparatus and the phrenic nerve was originally made by exposing the phrenic nerve. The newest design uses a hollow needle of the size and length of a darning needle through which a copper wire is passed to the nerve.

Paste

A soothing paste composed of alumina gel with kaolin is recommended for application to the skin about intestinal fistulas and for moist pruritus ani. It dries to form a protective coating that resists the corrosive action of oozing intestinal secretions and relieves itching and burning.⁷⁹

PSORIASIS

That the oral administration of undecylenic acid is of value in the treatment of certain skin diseases and other disease entities is a new concept. Heretofore, undecylenic acid has been used only by topical applications. The local use in the treatment of ringworm infections of numerous types of the acid alone, or in combination with its metallic salts, grew from demonstration that they possess fungicidal activity. During an investigation of topical medication for the treatment of tinea capitis (*Microsporon audouinii*), the fungistatic properties of undecylenic acid were found inoperative against the causative organism. This was thought to be due to inaccessibility of the organism encased within the hair follicle. Simultaneously it was reported that, at the onset of puberty, sebaceous secretions of the scalp contain higher concentrations of certain saturated fatty acids and that these acids have fungistatic and fungicidal action against *M. audouinii*. Since tinea capitis is regressive at puberty, it was reasoned that the oral administration of one of the saturated or unsaturated fatty acids might be therapeutically effective in its treatment. Because of its known fungicidal activity and because it is an unsaturated fatty acid in the same carbon chain range as fatty acids in sebaceous secretions of the scalp, undecylenic acid was chosen. Toxicity tests revealed that it was relatively non-toxic. The most positive effect of treatment with undecylenic acid, profuse desquamation of the scalp, was a consequence which would be desirable if it could be effected in other skin diseases. Thus an investigation of its value in psoriasis began, and the results were promising. It also has shown some value in neu-

rodermatitis, arthritis and bursitis. Its use, while empirical, is based on well demonstrated improvement in disturbances for which no specific therapy is available. Further clinical and scientific research is indicated to determine the usefulness of the drug, its safety, and the optimum dosage.

The ingestion of undecylenic acid produced some side actions, such as belching, nausea, vomiting, burning sensation in the epigastrium, and bad taste in the mouth. These were relieved or prevented by using carbonated water, soft drinks, or sodium bicarbonate in water along with capsules containing the acid. Other untoward reactions of which the patients complained were frontal or occipital headache, a sense of fullness referred to the frontal area of the head and above the eyes, diarrhea, folliculitis, localized minute abscesses upon the posterior aspect of the neck, conjunctivitis, axillary adenitis, and frequent micturition. These usually disappeared in a short time, even though the medication was continued. When vomiting occurred, medication was stopped. With its resumption, vomiting did not occur. It is possible that some of these side effects were coincidental ones. Routine observation of blood pressure, respiration, heart action, pulse rate, temperature, and urinalysis failed to indicate any abnormalities.

It is not understood how undecylenic acid produces desquamation or ultimate clinical benefit. The precise nature of any metabolic changes brought about by the compound remains to be determined. The fact that this fatty acid is a liquid is a factor which probably influences the rate of its digestion and absorption.

Specially purified undecylenic acid certified for oral use is not to be confused with undecylenic acid preparations which have been used locally for a long while in the treatment of skin infections. Undecylenic acid, as available on the open market, varies in chemical composition. The specially fractionated product possesses physical and chemical properties known to produce the clinical effects which have been obtained. It is not known whether less

pure undecylenic acid available for external use has a similar effect.⁸⁰

SCABICIDE

Cream

Numerous effective products have been marketed for the eradication of scabies. Recently a new cream containing 10 per cent of N-ethyl-o-orotonoluide and having a highly efficient miticidal action as well as a bacteriostatic effect on other organisms such as staphylococci and streptococci has been announced. It is odorless, non-greasy, non-soiling, non-staining, non-toxic and non-irritating.⁸¹

Vanishing Cream

Another new scabicide is 1,2,3,4,5,6-hexachloro-cyclohexane, which has been used effectively. It is incorporated in a vanishing cream base to the extent of 1 per cent. Without preliminary bathing, a thin film of the cream is rubbed into the entire cutaneous surface. About 15 to 25 Gm. are required for one adult treatment. The patient is not to bathe for 24 hours. After a thorough bath all under-clothing, night clothes and bed linen are to be changed and thoroughly laundered. The patient is examined after one week to allow ample time for any ova to hatch. This remedy is effective in cases in which other remedies fail. In the clinical trials no cases of irritation or sensitivity have been recorded, and there were no contraindications even in the presence of severe dermatitis from scratching. This drug also has proven to be effective in the control of chiggers, ticks, fleas, cockroaches, bed-bugs, and pediculi capitis, corporis and pubis. The toxicity of the drug is quite low when applied to the skin or even when administered orally, according to tests on experimental animals.⁸²

VASOCONSTRICTORS, VASODILATORS

Inhaler

For many years there has been available an inhaler containing volatile racemic

amphetamine or chemically, *dl*-1-phenyl-2-aminopropane. It was indicated for use as a vasoconstrictor for shrinking the nasal mucosa in head colds, sinusitis, aerotitis and allergic rhinitis. Because this drug also possessed a stimulating effect upon the central nervous system it was misused by school students, juvenile delinquents and others for so-called "jags" and resulted in considerable criticism of the pharmacist for selling such inhalers without a prescription. In order to remedy the situation the manufacturer instituted extensive research to find a substitute which would have the vasoconstricting effects without the stimulating effect. Recently a new inhaler containing volatile 1-cyclohexyl-2-methyl aminopropane 250 mg. and aromatics was made available, and the earlier inhaler was withdrawn from the market.

The new compound has the same indications and produces the same rapid, complete and prolonged shrinkage of the nasal mucosa. However, it produces almost no central nervous stimulation and, therefore, does not cause insomnia, restlessness or nervousness even after repeated usage.⁸³

New Chemical

A new product of this group, recently introduced is, chemically, the alcohol corresponding to nicotinic acid but is distinguished from nicotinic acid by a far lower incidence of side effects. If flushing of the face and neck occurs at all, it is usually mild and does not inconvenience the patient. A significant advantage is that its action is much more prolonged than that of nicotinic acid. Moreover, patients are not likely to develop a tolerance, so it can be used over prolonged periods without requiring frequent increases in dosage.⁸⁴

Crystalline Substance

A crystalline substance has been isolated from beef serum and shown to have some vasoconstrictor activity. In animal experiments it has been shown to cause an effect similar to that caused by more than twice an equal weight of epinephrine hydrochloride.⁸⁵

VITAMINS

Niacin

Extensive studies of the chemical processes involved in vision by Harvard University workers have revealed that niacin, a member of the vitamin B complex and wellknown for its role in the prevention of pellagra, is also of importance in the mechanism of vision. Rhodopsin, the red substance in the retina of the eye which bleaches when exposed to light and starts the chemical processes by which humans see, first forms a yellow substance known as retinene. This is then converted to colorless vitamin A necessary for vision at night. Vitamin A, in turn, is joined with a protein to form more rhodopsin, thus completing a cycle, and vision continues indefinitely. Vitamin A also is present in high concentration in the retina, and a deficiency of it causes night blindness. Recently Dr. G. Wald of Harvard found that niacin is instrumental in the conversion of retinene to vitamin A by transferring 2 hydrogen atoms to the retinene. This reaction is accomplished by means of an enzyme and a co-enzyme, and niacin is the key component of the latter. Thus this discovery not only adds to the knowledge of how the eye functions but also will be of value in the therapy of various eye conditions and in particular, night blindness.

Soluble Riboflavin

Since the discovery of riboflavin one of the greatest difficulties in its administration has been the problem of solubility. Various solutions have been developed with some success. Within the past year a new highly soluble derivative has been made available for intravenous or intramuscular injection. This new form permits the preparation of concentrated solutions without resorting to unduly large amounts of niacinamide or other foreign solubilizing agents. It also overcomes the objectionable features and inconveniences of the lyophilized riboflavin injections.⁸⁸

MISCELLANY

Ether

A new, non-surgical treatment for ob-

struction of arterial circulation in the legs has been reported by Dr. R. A. Katz of the Truro Infirmary and Dr. O. C. Williams of the United States Public Health Service. The treatment consists of the injection into the vein, by the drip method, of a 2½ per cent solution of ether in distilled water containing 5 per cent glucose, or dextrose. It is administered at the rate of 40 to 60 drops a minute to a total of 1,000 cc. a day. The course of treatment includes 12 daily injections, and after an interval of rest the course may be repeated. This therapy also has given encouraging results in arteriosclerosis, thrombo-angiitis obliterans or Buerger's disease, diabetes, varicose ulcers, perivascular disease, neurodermatitis, neuritis, Raynaud's disease, periarteritis, traumatic gangrene and angiospasm.

Gray Hair Preventive

Dr. H. I. Jones has recently reported that a substance derived from a mold bran, used as a special feed for prize cattle, has been effective in restoring gray hair on cattle to its natural color. This is now being tested at Iowa State College as a possible ingredient of a breakfast food for its possible use to prevent gray hair in humans.

Calcium Gluconate

Calcium gluconate is not a new drug, by any means, but a new use for it has been discovered. Victims of the deadly bite of the Black Widow spider no longer need fear toxic effects if they can reach a physician. It has been found that injections of calcium gluconate relieve the symptoms and effect a cure. However, it is necessary that treatment be given immediately.

Local Anesthetic

Chemically related to procaine, intracaine and similar ester compounds β -2-piperidyl-ethyl-orthoamino-benzoate-hydrochloride is a new local anesthetic. Unlike procaine and pontocaine, it is an ester of orthoaminobenzoic acid. The compound is a white powder which dissolves in water with difficulty. However, solutions of 1 per cent or less may be made in water or

MEDICAL TIMES, FEBRUARY, 1950

spinal fluid. These are sufficiently concentrated for clinical use. Its solubility precludes the use of more concentrated solutions. When given intrathecally in a 0.5 per cent solution this drug produces sensory anesthesia with mild paresis or sensory anesthesia with no motor involvement at all.⁸⁷

Mineral Oil

Recent investigation of pneumonia in elderly persons has traced the cause in some cases to repeated oral doses of mineral oil. Apparently mineral oil, in some cases, may be absorbed by the gastrointestinal tract in trace quantities. Further studies are now being made. Dr. L. Schneider reported that the pneumonia may be present for a long time before it causes changes that are recognizable on an X-ray film, and the examining physician may mistake the disease for cancer of the lung or bronchus and subject the patient to a needless operation. Pneumonia was revealed by chest examination in 5 elderly patients who were apparently in good health and reported that they had taken mineral oil regularly for laxative purposes.

Fat Absorption

The first palatable liquid solution of sorbitan monooleate polyoxyethylene derivative (S.M.P.D.), a wetting agent which quickly and easily emulsifies and reduces the particle size of fats and fat soluble materials, is now available. It is indicated for use in abnormal physiologic conditions characterized by impaired absorption of fats or fat soluble substances from the small intestines. The most striking sign of inefficient fat absorption is steatorrhea, a condition in which excess amounts of fat are found in the stools. The solution is indicated in malnutrition due to faulty fat absorption; intestinal hyper- or hypoactivity; reduced absorbing surface in small bowel; diminution of digestive enzymes; regional enteritis; pancreatic fibrosis; sprue; celiac disease; and impaired biliary cycle. It is also beneficial to patients following subtotal gastrectomy and will maintain postcholecystectomy patients on a com-

plete diet. Fecal fat in excess of the normally accepted figure of 4 per cent is a definite indication.⁸⁸

Polyoxyethylene sorbitan monooleate also is now available in capsule form. Each capsule contains 0.5 Gm. of the active ingredient, and the minimal dosage daily is 6.0 Gm. (2.0 Gm. or 4 capsules three times a day with meals). In addition, an adequate diet should be provided, including a minimum of from 125 to 150 Gm. of fat. This product acts in the same manner and is indicated in the same conditions as the previously described product.⁸⁹

Cabbage Juice

In various tests with the general run of peptic ulcers several authorities have revealed that the average healing time for duodenal ulcers was 37 days and for stomach ulcers, 42 days. Dr. Garnett Cheney of the Stanford University Medical School has reported that this healing time has been reduced considerably by the administration of raw cabbage juice. When it was given to 13 patients, only one case required 23 days of therapy. In this case, at the end of 8 days the lesion had disappeared, but a bumplike deformity remained. In the 6 duodenal ulcer cases the average healing time was 10.4 days and for the 6 stomach ulcer cases was 7.3 days.

Migraine

The latest advance in the therapy of migraine headache is the development of a preparation containing 1 mg. ergotamine tartrate and 100 mg. caffeine. Experimentally the product was known as E.C. 110. This drug is the first oral preparation to give reliable relief of the migraine headache attack. A number of clinical studies have demonstrated a high percentage effectiveness in this and other vascular type headaches (tension and histaminic headaches). Best results are obtained by giving an adequate amount, preferably in a single dose, as early as possible in the attack (at the very first sign of pain). Administration between attacks as prophylactic treatment is not recommended. Doses exceeding 4 tablets may produce

transient tachycardia and restlessness in certain susceptible persons due to the caffeine component. The drug may be given to interrupt the progress of an attack once started, thereby markedly shortening it and reducing it in severity. It should not be administered in the presence of peripheral vascular disease, angina pectoris, impaired renal or hepatic function, or during pregnancy.⁹⁰

Methyl Cellulose

The synthetic hydrophilic colloid methylcellulose has a high degree of chemical uniformity which is not found in natural gums. This is one of the advantages of the use of methylcellulose as a bulk laxative. It has been reported that the way in which the colloid takes up water makes it almost impossible to form an impaction. Methylcellulose forms a colloidal solution in any amount of water, the viscosity varying from a soft smooth gel to a thin demulcent liquid. Following use the stools passed are normal, soft and bulky and are passed without accompanying griping, cramping or tenesmus.⁹¹

Another laxative contains sodium carboxymethylcellulose.⁹²

Niaarin

A new glycoside obtained from the latex of the South American tree *Ogcodeia ternstroemiaeflora* has been employed successfully in the treatment of congestive heart failure, according to a report by K. Mezey and his associates. Used by Columbian natives as an arrow poison this extract has chemical and pharmacological properties similar to those of the cardiac glycosides. It has no curariform activity and is like strophanthin in its rapidity and brevity of action. Seven patients were treated with 0.5 to 0.75 mg. daily for two days and then with 0.25 mg. daily for two or three days more. Substantial drops in heart and respiratory rates, venous pressure and circulation time were noted within 24 hours after beginning therapy. No side effects were observed. Intravenous administration is necessary because the drug is poorly absorbed from the gastrointestinal tract. This new compound has been given the name Niaarin.

Antabus

Reports from Copenhagen revealed that a chemical, diethylthiurandisulfide or [bis (diethylthiocarbonyl)disulfide] was believed to be of value in treating alcoholism. Clinical trials revealed that it did have value in this therapy, but later it was shown there could also be undesirable effects.¹ It was found that 0.5 to 1.5 Gm. of this substance causes characteristic unpleasant symptoms when people subsequently drink even small amounts of alcohol. This drug should not be given to patients with disorders of the cardiovascular system, liver, kidneys, blood-forming organs, nor to diabetics. This warning is given because of the nature of the reaction which occurs following the ingestion of alcohol during treatment with antabus. Among the effects produced are acceleration of the pulse, elevation of the skin temperature, edema under the eyes, nausea and vomiting. Biochemically the major change seems to be an elevation of the blood level of acetaldehyde.

In the treatment of alcoholics a large initial dose of 2 Gm. of the compound should be given. Alcohol should then be given deliberately so that the patient may experience the severe reaction which will be his lot any time thereafter should he partake of alcohol. This should be performed under hospital care. Subsequent dosage is 1.5 Gm. on the 2nd day, 1.0 Gm. on the 3rd, and 0.5 to 0.7 Gm. thereafter. The maximum effect of the drug is obtained 6 to 12 hours after administration.⁹³

Elastic Bandage

Recently there was introduced a highly elastic, transparent plastic material, which gives off, at a constant rate, about one-third its weight of methyl salicylate. This bandage is indicated in such common conditions as rheumatoid ailments and acute rheumatic fever, fibrositis, lumbago, gout, myalgia, neuralgia, muscle stiffness, sprains, strains, etc. It can be used for 60 hours but not more than 10 hours at a time.⁹⁴

Solution G

It has long been an objective of urolo-

MEDICAL TIMES, FEBRUARY, 1950

gists to develop a means of removing stones without surgery. Solution G is applicable to the phosphatic type of stone composed of calcium phosphate with or without calcium carbonate and/or magnesium ammonium phosphate. This solution also has been found to exert considerable bactericidal effect on several pathogenic organisms.

The solution has the following formula:

Citric acid	32.3 Gm.
Magnesium oxide (anhyd.)	3.8 Gm.
Sodium carbonate (anhyd.)	4.4 Gm.
Distilled water q.s. ad.	1000.0 cc.

This solution has a pH of 4.0 when properly prepared. The magnesium oxide and sodium carbonate should be heated in an oven at 100° C. to remove water. Less of these salts would lower the pH and, thus, increase the irritability of the solution. The citric acid is dissolved in 600 cc. of water, the magnesium oxide added, and then the sodium carbonate in small portions. After effervescence has died down the solution is boiled to remove carbon dioxide and then adjusted to volume, after cooling. The solution is filtered and sterilized by heating in an autoclave for 30 minutes at 10 lb. pressure. The solution is used by irrigation.

RADIOACTIVITY

There have been many advances in the field of radioactivity in the past year. It has been reported that radioactive mosquitoes are being used by the Rockefeller Foundation to fight yellow fever. Insects in the larval stage are exposed to weak solutions of radioactive phosphorus, and as a result the adults which develop are radioactive for the duration of life. Thus, when they are released and recaptured, they can be identified. By this means it is possible to determine the rate and direction of the spread of a mosquito colony and the average length of life. It is, of course, a laborious task since 175 man hours are required for the recapture of fifteen radioactive insects out of a colony of 5,000 which has been treated with the phosphorus bath.

Studies have been made to develop

methods of increasing human resistance to radiation. In animals it has been found that horse serum, administered 10 days before the radiation treatment, reduces mortality in 40 days to zero, compared with 21 per cent and 28 per cent losses among male and female controls. If the serum is given immediately after radiation, deaths more than double in comparison with the controls. Administration of certain steroids or foreign proteins, such as the male and female hormones and adrenal gland cortical hormone, before or after radiation also enhances or diminishes its effects. It is believed and hoped that these discoveries may influence, in some manner, the survival from total body radiation and the effectiveness of radiation treatment of cancer.

The effects on radiation in animals of folic acid and pyridoxine also have been studied. Folic acid given after radiation had no obvious effect on the blood picture as there was with the controls, but there was seemingly a significant reduction of the number of deaths during one of the phases of radiation sickness from 26 per cent to 2 per cent or less. The animals given folic acid survived longer too. Survival times were greatly prolonged in animals given pyridoxine before radiation but not after irradiation. The proportion of animals surviving the radiation treatment after 100 days was increased from 19 per cent in the control group to 58 per cent in the pyridoxine-treated group and 62 per cent in the folic-acid-treated group.

Rutin also has some effect in counteracting the effects of radiation. Asparagus recently was reported to be one of the richest sources of this drug. Rutin acts by strengthening the walls of the capillaries and thus prevents the small, innumerable internal hemorrhages caused by radiation.

Use of irradiation by ultra-violet light to kill or destroy the reproductive ability of certain micro-organisms has been in vogue for several years. A limited number of these organisms will recover in a few days. Recently it was reported that ordinary light immediately after ultraviolet radiation will increase this recovery rate as much as 400,000-fold. If the organisms are kept in the dark this does not occur. The ultra-

violet rays act by disrupting the vital process of single-celled organisms, and something in ordinary light restores the process. It is hoped that this may, some day, aid in discovery of the factors involved in recovery from x-irradiation or irradiation from radioactive materials.

Recently it was reported that polycythemia vera, a rare and fatal blood disease, has been controlled by sodium radiophosphate. When this compound is administered to such patients, it collects in the bone, bone marrow and some rapidly growing tissue and inhibits the production of red cells. This is a therapy which, it is hoped, will mean as much to the patients with polycythemia vera as insulin does to diabetics.

Within the past four years, Abbott Laboratories has established a special research department to study the use of radioactive isotopes in medical diagnoses and therapy. This program also is directed toward:

1. The use of isotopes as a tool to secure even more complete information regarding the nature and mode of action of therapeutic substances. For instance, Pentothal has been prepared containing radioactive S-35, and studies now nearing completion shed new light on its mode of action and elimination. Similar studies are underway or already published involving Nembutal, Chiniofon, and other useful drugs.

2. The preparation of sterile, pyrogen-free, stable and accurately standardized solutions of certain widely used isotopes such as ^{32}P and ^{131}I . These are packed in suitable lead shields which permit safe shipment and use by medical units.

3. Chemical synthesis whereby specific isotopes are incorporated into compounds or special forms which permit their use for new purposes. For instance, di-iodo-fluorescein containing ^{131}I is being regularly prepared; given intravenously in proper dosage it localized in certain types of brain tumors and other lesions. A sensitive Geiger tube placed at various positions outside the skull picks up the gamma radiations from the iodine in the tumor which then may be located within a considerable degree of accuracy (Nucleonics 1948, p. 63). Hahn and his associates

pioneered the use of radioactive Colloidal Gold-198 which is also being prepared regularly by Abbott Laboratories. This solution containing as much as 10-20 millicuries of activity per cc., is injected directly into the tumor mass which is thus subjected to intense local irradiation. The short "half life" of the gold makes unnecessary its mechanical removal.

4. A number of special compounds such as gold sodium thiosulfate, methionine, thiourea, and tetraiodophenolphthalein have been "tagged" for specialized research purposes; this part of the work will be expanded as rapidly as possible.

It is to be emphasized that the clinical use of such radioactive materials is still experimental. Treatment of polycythemia vera with ^{32}P is as successful and somewhat more convenient than general irradiation. Its use in leukemia is on a less firm basis. Under properly controlled conditions ^{131}I may be used to reduce or destroy thyroid activity. Thyroid tumors which take up iodine have been successfully treated in the same way. In much smaller doses it may be used to accurately measure thyroid activity.

The original isotopes are secured from the U. S. Atomic Energy Commission piles at Oak Ridge or Chicago, in units which may have several hundred millicuries of activity, and are processed in the laboratories. Shipments of the processed materials can be made only to individuals or groups who have received specific allocations from the U. S. Atomic Energy Commission, Isotopes Division. Countries in the Pan American Union which have completed arrangements for the receipt of isotopes are Argentina, Brazil, Chile, Colombia, Cuba, Guatemala, Mexico and Peru. Individuals or groups should submit their requests to the United States Atomic Energy Commission, Isotopes Division, Oak Ridge, Tennessee, by or through the representative designated by their government for that purpose. This request must establish that not only will proper use be made of the material, but that adequate facilities for its safe handling are available.

If the materials are to be secured from

or processed by Abbott Laboratories the application should so state, and a carbon copy sent directly to Dr. D. L. Tabern, Abbott Laboratories, North Chicago, Illinois.

References

64. DSB, Endo Products, Inc.
65. Colfoam Tumor Diagnosis Kit, The Upjohn Co.
66. Coarctoidin 1:100, Cutter Laboratories.
67. Plastotest.
68. Secretin, Wyeth, Inc.
- 64a. V.D.R.L. Antigen, Lederle Laboratories Division, American Cyanamid Co.
69. Mercurhydriol with ascorbic acid, Lakeside Laboratories, Inc.
70. Paradoxon, Abbott Laboratories, Inc.
71. Aminopterin, under investigation by Lederle Laboratories Division, American Cyanamid Co., Inc.
- 71a. Bursal tablets of Oreston (testosterone propionate), Provalon (progesterone), Progynon (estradiol) and Cortate (desoxyprogesterone acetate), Schering Corporation.
- 71b. Metadren Linguae, Ciba Pharmaceutical Products Inc.; Linguae Testosterone, Ayerst, McKenna and Harrison, Ltd.; Testosterone Propionate Bursal Tablets, Eli Lilly and Co. and Ciba Pharmaceutical Products Inc.; Hypogonads Testosterone, G. W. Carrick Co.
72. Upjohn Research Laboratories.
73. Dramamine, G. D. Searle and Co., Inc.
74. Masidal, Abbott Laboratories.
75. Electrophrenic Respirator.
76. Sub-Q-Pak, Abbott Laboratories.
77. Uretholase Chloride, Merck and Co., Inc.
78. My-B-Dos, Ernst Bishoff Co., Inc.
79. Protogel, Wyeth, Inc.
80. Decid, Deyl Pharmaceutical Co. and Sevinon, Schering Corporation.
81. Euxon Cream, Geigy Co., Inc.
82. Kwell Ointment, Commercial Solvents Corp.
83. Benzodrex Inhaler, Smith, Kline and French Laboratories.
84. Nontoxal Tartrate, Hoffmann-La Roche, Inc.
85. Serotonin, under investigation by the Research Division of the Cleveland Clinic Foundation.
86. HyHavin Injection Solution, Endo Products, Inc.
87. Lornine, under investigation by Maltbie Laboratories, Inc.
88. Monitan, Ives-Cameron Co., Inc.
89. Olotherb, Sharp and Dohme, Inc.
90. Cafergona, Sandoz Pharmaceuticals.
91. Celothyl, Chilcott Laboratories.
92. Eskalose Wafers, Smith, Kline and French Laboratories.
93. Antihuse, under investigation by Ayerst, McKenna and Harrison, Inc.
94. Polyester Bandage, Duncan C. McIntock Co., Inc.

TROPICAL MEDICINE

—Continued from page 56

been resettled in a new town with model wells and market-places. Cattle, pigs and poultry have been introduced, and flourish there. The cesspit which constituted old Anchau has now been transformed into a settlement aptly termed Takalafiya or "Walk in Health." For this magnificent achievement Dr. H. M. Lester, Dr. T. A.

M. Nash, and Dr. Kenneth Morris must be given full and generous credit.

Conquest of Yellow Fever

The story of the conquest of yellow fever, or "yellow jack" as it was known to our forefathers, has been one of constant and heroic endeavor in which British scientists have played a leading part and one in which valuable British lives have been sacrificed. A hundred years ago, yellow fever in epidemic form swept across the West Indies and the South American continent, and from time to time broke out also in West and Central Africa. The germ cause has been found to be an ultra-microscopic virus which is present in the blood in the first three days of the fever and is disseminated from the sick to the healthy by a gaily marked "tiger mosquito"—*Aedes aegypti*. Fortunately this is a domestic insect abounding in the haunts of man, especially in large towns, whence it can be easily ousted by D.D.T. This has now been done in many parts of South America and West Africa, so that with its disappearance yellow fever has been banished from the main centers of population.

With the development of irrigation and cultivation, bilharziasis is spreading throughout the Continent of Africa. The bilharzia (so-called after its discoverer, Bilharz — and familiarly nick-named "Bill Harris" by the British troops) is a worm, just under half-an-inch in length which lives securely within blood vessels. Here, the female produces a great number of hard-shelled eggs which are shed outside the body in the excreta and, when passed in water, give rise to a motile ciliated creature which burrows into the liver of certain freshwater snails which abound in streams, ponds, rivers, reservoirs, and other collections of water.

In this organ an elaborate reproduction takes place, the final phase of which is the cercaria, a small thread-like creature with a bifid tail which swims actively in the water for about two days. This, now a juvenile bilharzia worm, is attracted to man and, by burrowing through the skin,

—Concluded on page 86

Cancer of the Rectum and Sigmoid Areas

T. M. Larkowski, M.D.¹ and A. R. Rosanova, M.D.²

Chicago, Illinois

Malignant growths of the large bowel are among the most frequent tumors of the body. Approximately one-fourth of all deaths from cancer are due to carcinoma of the large bowel. Therefore, the importance of this subject cannot be overestimated.

Approximately 50 per cent of these tumors are within reach of the palpating finger. Many figures have been given. However, those given by Warren H. Cole are about average. According to Cole, the cecum is involved in about 6 per cent, the ascending colon in 12 per cent, the hepatic flexure in 5 per cent, the transverse colon in 6 per cent, the splenic flexure in 3 per cent, the descending colon and the sigmoid colon in 18 per cent and the rectum in 58 per cent. Multiple primary malignancies may occur such as a primary in the sigmoid area and another primary in the rectum. Metastases to this area have been reported from carcinoma elsewhere in the body. An example of this is the so-called Blummer's shelf which is a ring of carcinoma in the pararectal glands, and the so-called Krukenberg tumor which is carcinoma in the region of the ovaries. These are both supposed to originate from carcinoma of the stomach and develop by a drop metastasis to the pararectal area and to the ovarian regions respectively.

The exact cause of carcinoma of the large bowel, of course, is as yet unknown. However, we do know that it is found approximately twice as often in men as in women, and that it is found usually in patients between forty and seventy years of age. The most common age found by the writers is about 55. However, it has

been found in young persons aged 3 and 4 years. The younger the age, the faster it seems to grow, and the poorer the prognosis for a five year cure. Metastases in the young are much more common.

There are many theories as to the cause of cancer such as the virus theory, enzymatic theory, irritation theory, embryonic theory, and hereditary and intrinsic factors theory. One of the latest is the vertical hereditary theory in which mouse breast cancer is transmitted to the offspring or to the second generation if they are allowed to breast feed, but it is not transmitted if they are not allowed to breast feed or if the breast milk of the mouse is first pasteurized. While all of these theories are very interesting, none of them have been adequately proven.

The cecum and ascending colon usually have a medullary type of carcinoma, the transverse colon usually has a scirrhous type of carcinoma, and the rectosigmoid area a papillary type of carcinoma. We believe that this is probably due to the local tissue response to the etiological agent that causes cancer; whatever that agent may be.

Classification of cancer in the rectosigmoid area falls into two large groups called the SQUAMOUS and the GLANDULAR types of carcinoma. The SQUAMOUS CELL CARCINOMA (epithelioma) arises from squamous or transitional epithelium such as found on the skin near the anus. Squamous carcinoma may be subdivided into the basal-cell carcinoma and the squamous-cell epithelioma. This latter carcinoma is fast growing and metastasizes rapidly.

The GLANDULAR carcinoma may be found in the intestines, in the stomach and large colon and in the glands of the body such as the breast and others. This glandular carcinoma may be subdivided into

¹Attending Staff St. Mary of Nazareth Hospital, Chicago, Illinois. Clinical Professor, Stritch School of Medicine, Loyola University, Chicago, Illinois.

²Attending Staff St. Mary of Nazareth Hospital, Chicago, Illinois. Clinical Instructor, University of Illinois Medical School, Chicago, Illinois.

adenocarcinoma (columnar carcinoma) and carcinoma simplex. The carcinoma simplex is further subdivided into scirrhous (hard) carcinoma and medullary (soft) or encephaloid carcinoma.

Adenocarcinoma still preserves the glandular arrangement of the organ or part involved. The glands, however, are atypical and have many branching processes with darkly staining, irregular sized cells which contain numerous mitoses. There is no limiting basement membrane. Scirrhous carcinoma has a dense stroma with cells in cords or masses. Medullary carcinoma is highly cellular with slight stroma, and large cords of cells are present. The glandular arrangement is not reproduced. However, we must remember that in the same growth one part may be scirrhous and another part may be medullary in character.

Colloid carcinoma is a term applied to cancer in which the cells have undergone colloid degeneration. They are filled with a mucus-like, transparent material. These are rare. An anaplastic or undifferentiated carcinoma may occur in the rectosigmoid area but it also is very rare in this location. The cells are round and fail to show epithelial arrangement such as polyhedral, columnar or alveolar grouping. Because of this it may be mistaken for sarcoma.

Microscopically cancer cells have certain general characteristics whether found in the rectosigmoid area or anywhere else in the body. The cancer cells are undifferentiated. This is indicated by the irregular size, shape, and staining qualities of the cells. Numerous mitoses are present. The nuclei are richer in chromatin than usual and take on a deeper stain. There is irregular cell division and an absence of evidence of maturity of the cells such as collagen fibers, typical gland formation, and formation of cornification.

A review of mitosis is very helpful in understanding the characteristics of the cancer cell. Normal mitosis differs from cancer mitosis in that the normal mitosis is slow and the cells grow in a regular, well planned fashion and stop their growth when their usual size and shape is attained. Cancer cells grow and go through

all of the phases of mitosis such as prophase, metaphase, anaphase and telophase. However, the cancer cells keep on growing after they have attained their usual size and shape and do not stop growing, so that there are always numerous cells undergoing mitosis in a fast growing cancer area.

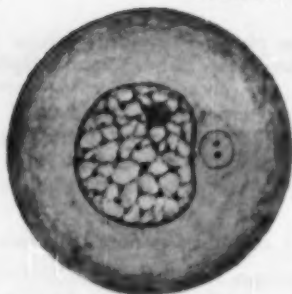
Plate 1 demonstrates normal mitosis.

The authors feel that an understanding of the cancer cell itself is very important in the treatment of cancer. There is no question that the best treatment available today is early diagnosis with total excision of the primary tumor and the surrounding gland-bearing area followed by x-ray or radium or atomic energy therapy. However, even under these conditions, including a thorough search of the liver, all blands and x-rays of pelvic and other bones, recurrences take place. Therefore, we feel that surgery and x-rays and radium and atomic energy are NOT the final answer to cancer. We feel that there is needed a therapy that will stop the cancer growth and eliminate the need for surgery and x-rays and atomic energy.

Early diagnosis at the present time is very hard to achieve in cancer of the rectum and sigmoid areas. There is no definite group of symptoms early, and the symptoms which are suggestive may not be all present. The patient may seek aid from the internist or practitioner because of weakness or feeling tired all of the time, without any other presenting symptoms. However, if there are any presenting symptoms such as irregularity of the bowel habit, or bright red blood with the bowel movements, or excessive loss of weight or strength without any other cause, the patient should always have a complete gastro-intestinal work-up including barium enema x-rays with air contrast, digital examination of the entire circumference of the rectum and anus, and proctoscopic examination. Biopsy may be done through a sigmoidoscope; however, it should be remembered that a positive report is conclusive but a negative report is not. A second section may prove the error.

The authors feel that any man or wo-

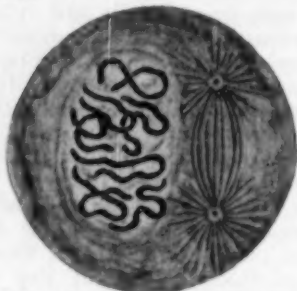
Plate I. Mitosis of the Normal Cell



1. Normal Resting Cell. With centrosome and nucleus containing chromatin and nucleoli.



2. Early Prophase. The centrosome divides and separates. The chromatin changes into the spirem stage.



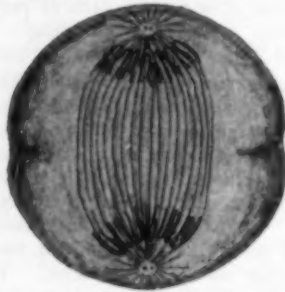
3. Middle Prophase. The chromatin skein breaks up into chromosomes. Astral lines radiate from centrioles.



4. Metaphase. A spindle zone connects the two centrioles. The chromosomes are in one plane (equatorial plane) and are splitting longitudinally.



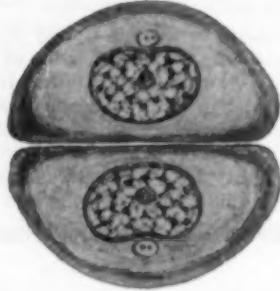
5. Early Anaphase. The split chromosomes separate and move toward the two centrioles.



6. Late Anaphase. The chromosomes move closer to the centrioles which have divided into two.



7. Telophase. Daughter nuclei begin to form and the cell cytoplasm divides by constriction.



8. Daughter Cells. The cytoplasm has completely separated and daughter nuclei with nucleoli have formed.

man over the age of forty who complains of hemorrhoids should have a complete work-up to eliminate the possibility of carcinoma of the rectum and sigmoid areas. Also, any man or woman over the age of forty who has an attack of appendicitis should have a complete work-up to eliminate the possibility of carcinoma of the rectum and sigmoid areas. Carcinoma in the rectosigmoid area causes an increase in pressure in the large bowel and this causes a blowout in the appendix area, because this area is thinnest and can take pressure the least of any area of the large colon.

There have been numerous tests for the determination of cancer in the body. The GRUSKIN test is the intradermal injection of cancer sera (or of an extract from the pancreas or liver of embryonic calves) for the diagnosis of cancer. Extract of Wharton's Jelly is used for the diagnosis of sarcoma. A wheel with pseudopods which forms within 15 minutes is positive. Recently Charles Huggins of the University of Chicago has announced a test with the patient's serum in which coagulation by heat is done. It is a known fact that cancer serum coagulates slower than normal serum. Iodoacetate inhibits coagulation of proteins in serum. Seven test tubes (same size as used for Wassermann test) are marked and arranged in sequence. A small amount of the patient's serum and of a buffered (ph 7.4) saline solution is placed in each one of the tubes. Sodium iodoacetate (measured in micrograms) is then placed

in each test tube in increasing concentrations. All seven tubes are then boiled in a water bath for 30 minutes. The END POINT is the tube which shows coagulation with the least percentage of iodoacetate at the end of this 30 minutes. It has been found that the relation between serum proteins and iodoacetate is linear. Therefore, the iodoacetate index equals the micrograms of iodoacetate found in the tube at the END POINT, multiplied by four (to convert this figure into grams) and divided by the number of grams of protein in 100cc. of patient's serum. Any Iodoacetate Index below 9 is supposedly positive for cancer. To date only advanced pulmonary tuberculosis and fulminating infections have been found to give the same results as cancer. These can be readily ruled out

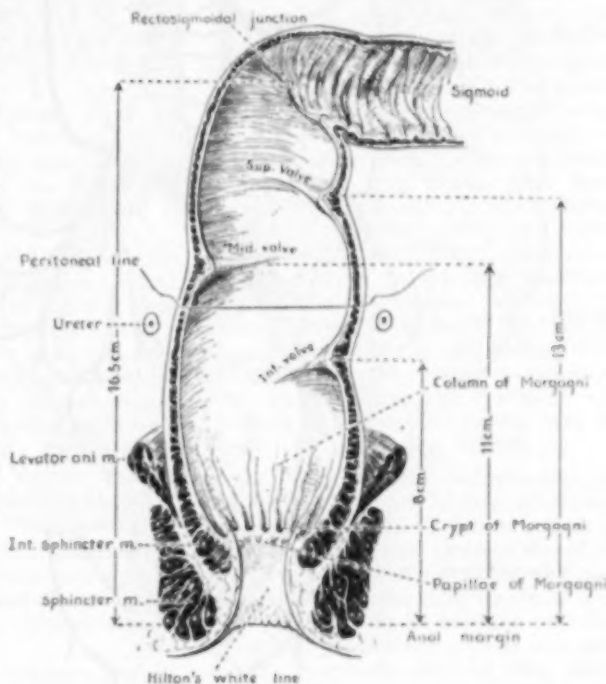
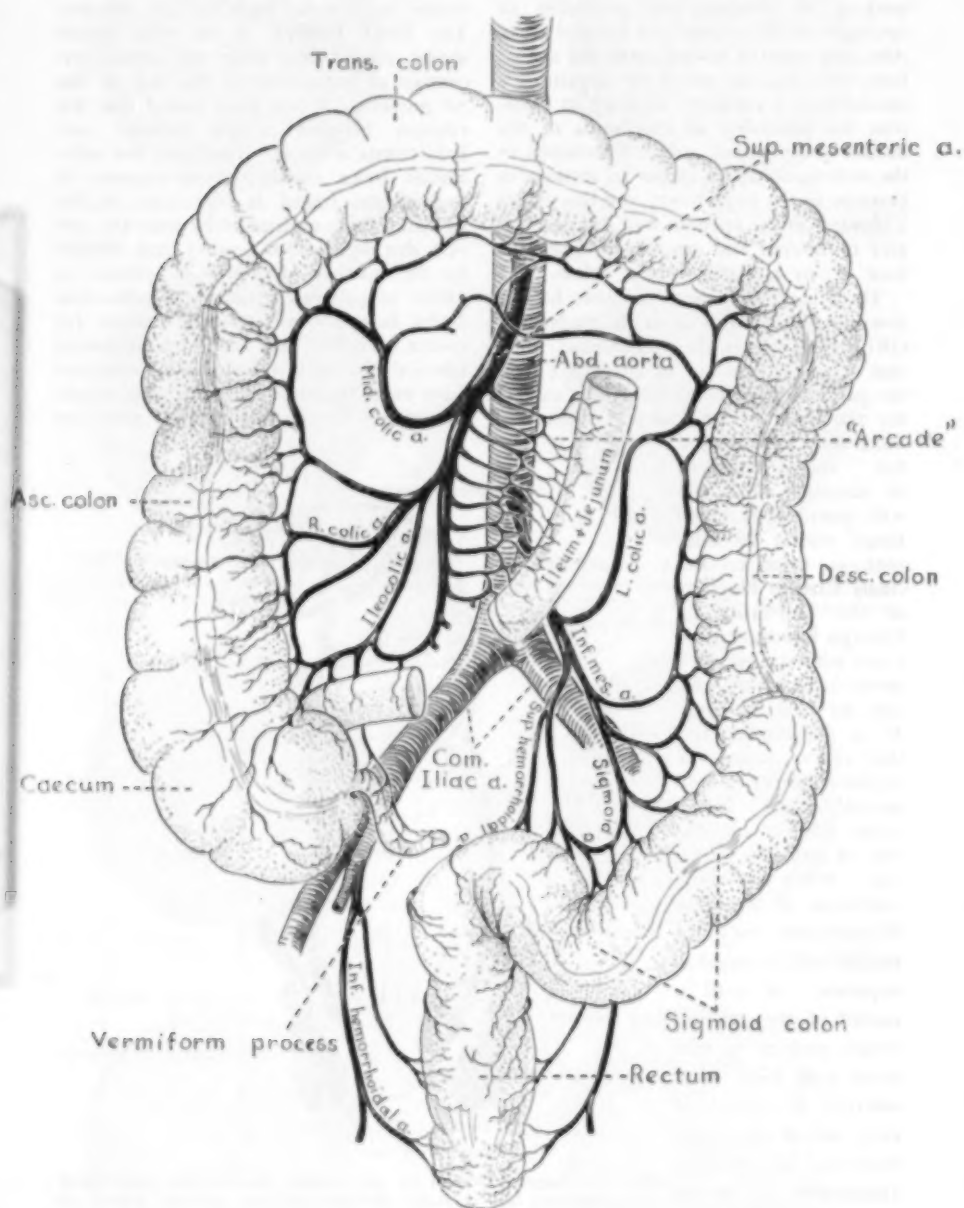


Fig. 1. Sagittal section of the rectum showing the anatomical structure and the average distances of the various valves of Houston and the rectosigmoid junction from the anal margin.

Plate II. Mesenteric arteries supplying the colon and rectum. The transverse colon is reflected upwards.



by other clinical signs and symptoms peculiar to these diseases.

Tests of the Gruskin and Huggins type, if proved reliable, would be wonderful not only for early detection of the original growth, but also for early detection of any regrowths which are not clinically evident (in the event of recurrences or metastases). Their value remains to be seen.

In the present day treatment of carcinoma of the rectum and sigmoid areas, one must thoroughly understand the anatomy including the blood supply and the lymphatic supply of the large bowel, in order to deal satisfactorily with this condition. The gross anatomy of the rectosigmoid area is shown in Fig. 1 and Plate II.

The critical angle of Sudeck was supposedly between the superior hemorrhoidal and the sigmoidal arteries. This idea arose because there is no anastomosis between the superior hemorrhoidal and the sigmoidal arteries. The authors have found this to be a false concept and have ligated the superior hemorrhoidal artery high up, without any mishaps.

The rectum and sigmoid areas are drained by the portal system of veins. This is why carcinoma of these areas frequently metastasizes to the liver. The portal system of veins is demonstrated in Plate III.

Lymphatic spread is usually to the intermediate nodes, but if these become blocked, the spread is likely to be upward along the paracolic nodes. Lymphatic spread is rarely more than 2 inches up or down the bowel (from the lesion). Lymphatic spread under the surface of the levator ani muscles may continue to the lateral pelvic wall. Therefore, one must look for spread to the lateral pelvic wall before deciding which type of surgical procedure to use.

The lymphatic spread is shown in Fig. 2.

The PREOPERATIVE TREATMENT of carcinoma of the rectum and sigmoid areas is easily remembered if one recalls the vowel sounds of the alphabet, namely, A.E.I.O.U.

The "A" stands for Anemia. This, of course, has to be corrected by blood transfusions, liver injections, and the like. The

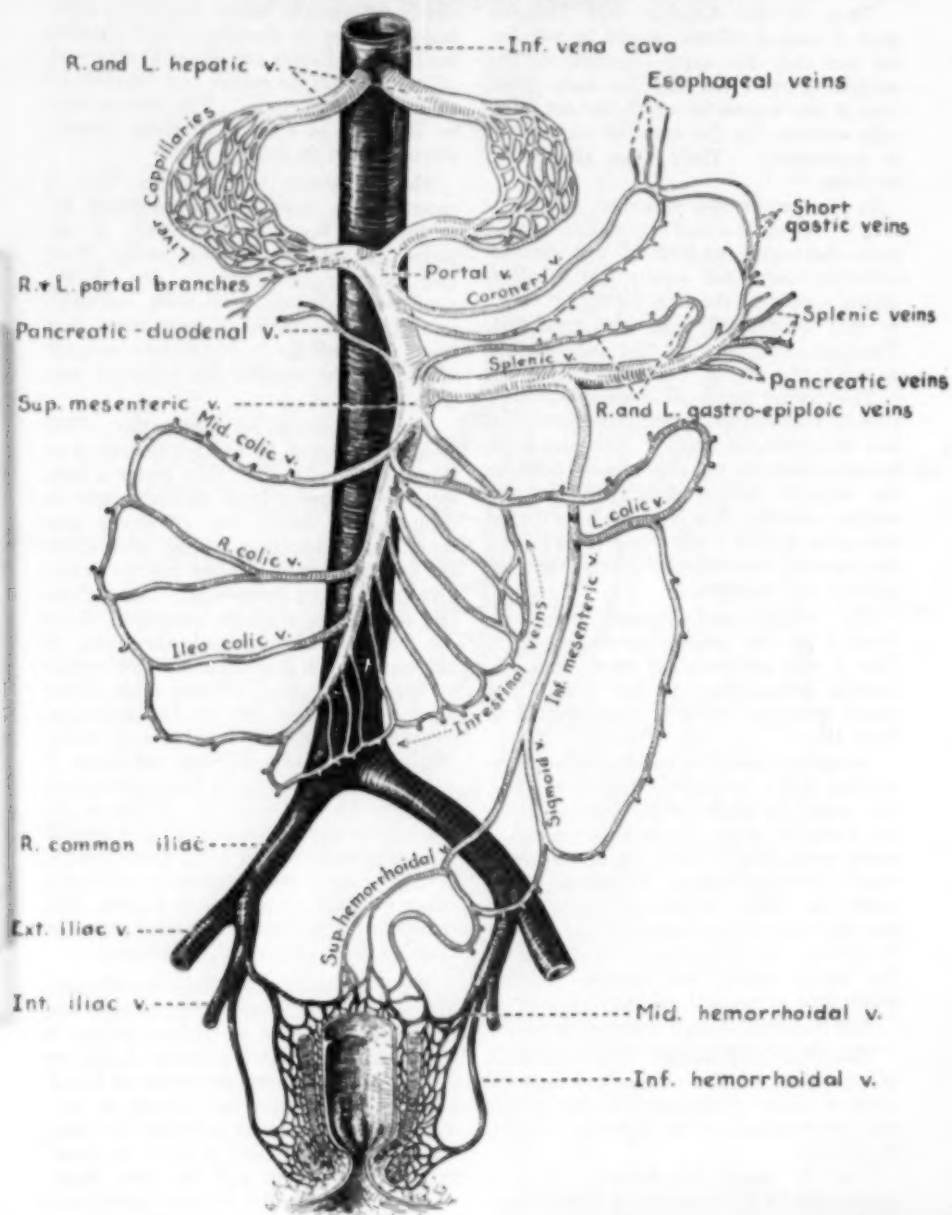
"E" stands for Enteric contents. The lumen of the bowel must be emptied as completely as possible before surgery is done. Saline enemas in abundance and repeated until returned clear are given. Purges with saline cathartics or others may be resorted to, if the case permits. The bowels must be as empty as possible of their contents when surgery is done.

The "I" stands for Infection. This is controlled by streptomycin injections for at least 48 hours preoperatively, if the patient cannot take anything orally. One-half gram is given twice a day. If the patient can take oral medication, sulfathalidine or sulfasuxidine 1 gram every four hours is given for 5 days before surgery. These help to sterilize the intestinal contents.

The "O" stands for Obstruction. This is done away with by using a cecostomy or a transverse colostomy. We prefer a loop colostomy using a large drainage tube in the proximal loop. The colostomy prevents fecal impaction at the obstruction site and because of this the authors prefer a colostomy to a cecostomy. The authors feel that this is a simple procedure which can be done under local anesthesia, if necessary, and it is much more comfortable to the patient than having tubes down his nose and throat and into his esophagus, stomach and bowels for days and weeks. The cecostomy or transverse colostomy is done, leaving in place a large mushroom catheter. This is removed on about the 5th or 6th day postoperative, and usually the cecum will close by itself (after a week or two), and the transverse colostomy closes by itself after 5 or 6 months. The cecostomy or colostomy opening may be closed later by suturing, if necessary.

The "U" stands for undernourishment. The cancer patient may be very cachectic and should be first built up before surgery is attempted. His blood proteins should be at least 6 to 8 Grams per 100cc. of blood. His albumin-globulin ratio should be normal. Proteins may be supplied by using amino acid preparations such as aminosol, amigen, protolysate and the like, intravenously, and by the various amino acid oral concentrates. If the urobilinogen test

Plate III. Diagrammatic representation of the portal vein and of the mesenteric veins supplying the colon and rectum.



(done on a *fresh* specimen of voided urine) is positive, surgery should be postponed and the liver supplied with plenty of carbohydrates, proteins, and vitamins A,D,C,B complex, and K. Operating a patient with a positive urobilinogen test is inviting a mortality from liver failure.

In the **SURGICAL TREATMENT** of cancer of the rectum and sigmoid areas complete excision of the primary tumor with wide excision of the surrounding gland-bearing tissue should be the chief objective of any operation. Reconstruction of the continuity of the bowel and preservation of the anal sphincter control should be of secondary importance.

In no other surgical procedure are there as many different names applied to operations as there are in operations for cancer of the rectum and sigmoid areas. Without slightly anyone in particular, the authors feel that certain men contributed more to the operative technic than others, and their names should be briefly mentioned. We are of the opinion that no operation should be known exclusively by any man's name, but by the anatomical and technical name. Littre in 1710 performed the first sigmoidostomy. Faget amputated the rectum in 1739. Kocher in 1875 did a resection of the tumor area with an end-to-end anastomosis. Czerny in 1884 first attempted to remove a rectal carcinoma perineally and also opened the abdomen and thus removed it; so he became the first man to do a combined abdominoperineal operation. Kraske in 1885 removed the lower

part of the sacrum and the coccyx and through this approach he removed the cancer-bearing area in the rectum and left a perineal colostomy opening. There were many modifications of Kraske's operation, each man removing a little more or a little less, or making the incision of the sacrum in a different direction, and each man attaching his name to the operation.

Czerny's abdominoperineal approach was modified by Maunsell in 1892. This was improved upon by Weir, Ball, Quénu, Mayo, Cripps, and Miles, to mention a few. This approach is now most widely known as the Miles abdominoperineal, as Miles was the first to advocate wide excision of the lymph node area, thus causing a marked decrease in the recurrence rate. Block in 1892 first introduced the stage

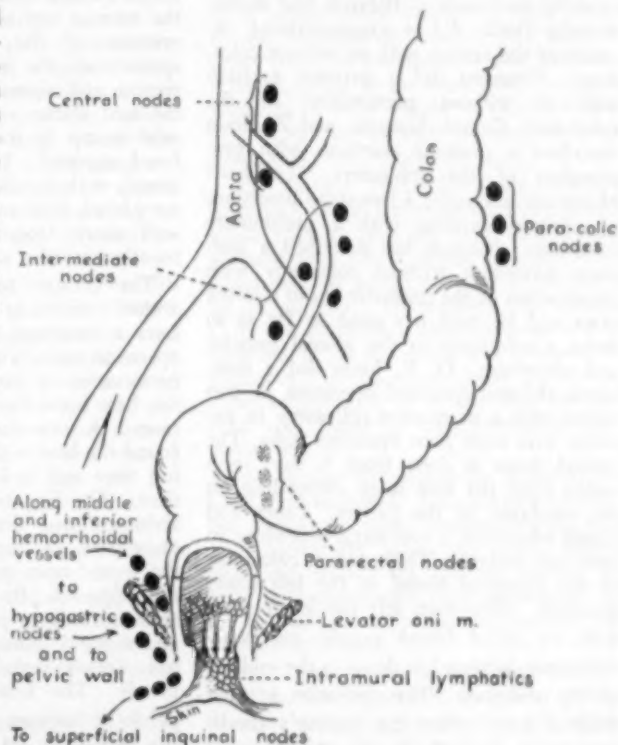


Fig. 2. Lymphatic drainage.

method and exteriorized the growth in the first stage and completed the operation later. This procedure of exteriorization was popularized by Mickulicz and now bears his name. It is very seldom used at present for cancer of the rectum or sigmoid areas unless there is an obstruction and the patient is a very poor risk. Rankin described an obstructive-resection operation which exteriorized the involved bowel similarly to the Mickulicz operation but which excised the tumor-bearing area and established a colostomy all in one stage. This method also is very seldom used at present except in poor risk patients.

In 1898 Quénu performed a perineal excision with preservation of the sphincters. This was later modified by many and preservation of the sphincter control at the present time is widely advocated in selected cases by such men as Babcock and Bacon. Murphy-Tuttle did a vaginoperineal excision of the rectum with or without colostomy. Yeomans did a perineal excision with or without preservation of the sphincters. Guneo, Seneque, and Zagdoun described a perineal resection with preservation of the sphincters. Lockhart-Mummery advocated a two-stage procedure of perineal excision with a preliminary colostomy. Babcock has described a one-stage procedure without colostomy with preservation of the sphincter and in selected cases and he even has gone so far as to make a colostomy in the gluteal muscles and elsewhere. D. F. Jones did a combined abdominoperineal operation in two stages with a permanent colostomy in patients who were poor operative risks. The second stage is done from 5 days to 3 weeks after the first stage, depending on the condition of the patient. Lahey and Catell advocated a two-stage procedure in poor risk patients. They made a colostomy of the proximal bowel in the left lower quadrant. They then left the lower piece with an intact blood supply and as a colostomy opening low down in the midline of the abdomen. The operation is then finished later, when the patient's condition has sufficiently improved. They are now using the one-stage Miles operation

at the Lahey clinic almost exclusively (personal communication).

There have been many other modifications of the abdominoperineal route too numerous to mention here. The authors feel that with the present-day methods of preoperative care as outlined in this paper most patients can be brought to a stage wherein they can withstand the one-stage abdominoperineal resection of Miles. Wide removal of all lymphatic tissue is done with the liberation of the pelvic colon and sigmoid colon. A colostomy is established and if the patient is in good condition and the sigmoid redundant, freely moveable and the growth is at least 3 inches above the anal opening the authors bring the sigmoid down to the anal canal. Then through a perineal approach using a modified Bardenheuer incision (which is a very small removal of the sacrum and of the coccyx with preservation of the anal stump and anal sphincters), the involved portions of the rectum and sigmoid are removed leaving the anal stump and anal sphincters. The anal stump is then anastomosed to the freed sigmoid. The area is closed very loosely with dermal sutures. If any drains are placed, they are very small and placed well away from the anastomosis area; usually near the sacrum.

The authors feel that any carcinoma within 3 inches of the anal opening should have a combined Miles abdominoperineal operation done with a colostomy, without preservation of the sphincters. This offers the best hope for a 5-year cure in these cases. A two-team operation has been found the best in that it lessens the operating time and is less shocking to the patient. The first team explores the entire abdomen and determines the procedure to be used. As soon as this is determined, the second team gets to work on the perineal approach. By the time that the second team is ready to pull the involved rectum and sigmoid down and out, the first team has already isolated and freed it completely. The first team then closes the pelvic peritoneum entirely and then closes the abdomen and adjusts the colostomy. The second team proceeds with the extir-

pation of the involved areas. A perianal incision with wide extirpation of the surrounding perineal tissue is performed. The freed anus, rectum and sigmoid are excised. The incision is left open and allowed to heal in by granulation.

The POSTOPERATIVE treatment revolves around the seven "S"s. By this is meant a simple means of remembering that everything possible is being done for the patient's welfare. Each one of the "S"s stands for something.

"S" number one is for SUCTION. This is done with a Levin tube, or a Kantor tube, or a Miller-Abbott tube or any other type of tube combined with Wangenstein suction, if the patient was not obstructed preoperatively. A rectal tube placed past the anastomosis site (from above downwards) at the time of operation may be used, if one prefers this type of tube.

As previously stated, if the patient was obstructed preoperatively, a cecostomy or transverse colostomy (preferably) is done routinely preoperatively, and this is used postoperatively. The large mushroom catheter in the cecostomy or colostomy and the rectal tube or the nasal tubes are usually removed on the 5th to 6th postoperative day, depending on the degree of distention of the patient and the establishment of peristalsis. One may hear the peristaltic sounds by careful abdominal auscultation.

Always remember to have the nurse wash out the suction tube or the catheter with one ounce of water every hour in order to guard against clogging of the tube and thus leading to distention of the patient. Liquids are allowed the patient usually on the third postoperative day. At this time, if the peristalsis is established, the suction is discontinued for one hour after feedings. Jello and custards and milk are given on the 4th postoperative day. Soft nonresidue diet is allowed on the fifth day and thereafter. Mineral oil, one ounce morning and night, is given on the fourth day. No enemas are given the first week after surgery.

"S" number two stands for SUGAR. Sugar in the form of 5% glucose in distilled water is given in an amount so that the patient gets at least 3000 cc. of fluids

in twenty-four hours plus whatever amount is lost per the cecostomy or colostomy or the suction tube. The total volume of fluid must be watched including that given as saline, that as sugar, that as amino acids, and that as blood.

"S" number three stands for SALINE solution. Physiological saline solution with 5% glucose is given in 1000 cc. doses. Never give more than 1000 cc. per day unless a lot of fluid is removed by means of the nasal intragastric suction tube. If this happens, the saline is given as 1 cc. of saline for each cc. of gastric juice removed in a 24-hour period by the suction tube. The blood chlorides are thus properly replaced. With an ileostomy the loss of electrolytes is especially bad and that is why we never use an ileostomy. Even with a cecostomy the loss of potassium may lead to a hypokaliemia similar to that found in the diarrhea of infants. We have at times found it necessary to use Darrow's solution, using at the most 80cc. per each kilogram of body weight so as to not lead to a hyperkalemia with its resultant heart dysfunction and shock-like state.

"S" number four stands for SERUM proteins. These are maintained by giving about 1000 cc. per day of an amino acid preparation. One similar to aminosol which has the added vitamins is preferred by the authors. The authors add vitamin C in five hundred milligram doses and B complex in 2 cc. doses and vitamin K (aqueous) in 10 mgm. doses to any of these solutions, if it is felt that the patient was markedly undernourished preoperatively.

"S" number five stands for SANGUINOUS fluid or blood. This is given to combat anemia or shock postoperatively and also during the operation itself. Blood clots and emboli are guarded against by early movements and early ambulation of the patient and dicumarol and heparin are given if necessary.

"S" number six stands for SEPTICEMIA. This is guarded against by giving procaine penicillin in 400,000 unit doses twice a day for at least 5 days postoperatively. Streptomycin is given in 1/2 Gram doses twice a day for at least three

days postoperatively. The patient is then placed on oral medication for another 3 days using sulfathalidine or sulfasuxidine in 1 Gram doses every four hours.

"S" number seven stands for SEDATION. This is done with morphine or other opiates such as demerol, methadon, pantapone, and the like and after the third day with tincture of opium by mouth.

Summary

Preferences of the authors for a combined Miles abdominoperineal operation or a modified resection, plus end-to-end anastomosis if the lesion is at least 3 inches above the anal sphincter, with preservation of the anal sphincter, have been discussed. The mortality rate of this radical procedure has been reduced, especially when the two-team technic, herein described, is used. Pre-and postoperative care is discussed in detail.

Conclusions

More patients with cancer of the rectum and sigmoid areas are found to survive over a given period of years than those with cancer of any other portion of the gastro-intestinal tract. Because of this, the authors have discussed in detail the early diagnosis, pre- and postoperative care, and the procedures which have given the best results in their hands.

References

- Cole, W. H. Carcinoma of the Colon. Rocky Mountain Medical Journal, 42:169-178, 1945.
- Cole, W. H. Carcinoma of the Colon. III. Med. J., 91:239-239, 1947.
- Kullberg, R. W. Editorial—Teamwork in Surgery. Am. J. Surg., 78:279, 1949, Sept.
- Bast, Russell R. Selection of Patients and Anatomic Procedures for Carcinoma of the Rectum and Rectosigmoid. The Amer. J. of Surg., 76:634, Dec. 1948.
- Bacon, H. E. Anus, Rectum and Sigmoid Colon. 4th Ed. 1949. J. B. Lippincott Co., Phila.
- Baron, H. E., and Rowe, R. J. Primary Resection for Cancer of Lower Bowel. New York State J. Med., 48:607, 1948.
- Rankin, F. W. How Surgery of the Colon and Rectum Developed. Surg., Gynec & Obst., 64:705, 1937.
- Miles, W. Ernest. A Method of Performing Abdomino-perineal Excision for Carcinoma of the Rectum and of the Terminal Portion of the Pelvic Colon. Lancet, 2:1812, 1908.
- Grinnell, R. S. The Lymphatic and Venous Spread of Carcinoma of the Rectum. Ann. Surg., 116:200, 1943.
- Gilchrist, R. E., and David, V. C. Lymphatic Spread of Carcinoma of the Rectum. Ann. Surg., 108:631, 1938.

Bacon, H. E. Evolution of Sphincter Muscle Preservation and Re-establishment of Continuity in the Operative Treatment of Rectal and Sigmoidal Cancer. Surg., Gynec., and Obst., 81:113, 1945.

Babcock, W. W. One Stage Simplified Proctosigmoidectomy with Formation of Perineal Anus. N. Clin. North Amer., 12:1307, 1933.

Babcock, W. W. The Operative Treatment of Carcinoma of the Rectosigmoid with Methods for Elimination of Colostomy. Surg. Gynec. and Obst., 55: 627, 1932.

Bacon, H. E. Malignancy of the Rectum and Colon, as Determined by the Gruskin Test. Journal. Lancet, 35:498, Aug. 1935.

Giordano, D. Contributo alle Indicazioni della Amputazione del Retto per il Ventre. Clin. Chir. Milano, 4:463, 1896.

Lakey, F. H. and Catell, R. B.: A Two Stage Abdomino-perineal Resection of the Rectum and Sigmoid for Carcinoma. Amer. Jour. Surg., 27:301, 1935.

Cesary, V. Caustische Mittheilungen aus der Chirurg. Klin. zu Heidelberg. Munch. Med. Wochenschr., p. 11, 1894.

Bardenheuer, A. Die Resektion des Mastdarms. Samt. Klin. Vortr. No. 296, 1887.

Kraske, P. Ueber die Weitere Entwicklung der Operation Hochhaltender Mastdarmkrebses. Vortrag. Cong. Deutsch. Gesellsch. Chir., 35:130, 1906.

Miles, W. E. The Radical Abdominoperineal Operation for Cancer of the Rectum and of the Pelvic Colon. Brit. Med. Jour., 2:941, 1910.

Huggins, C., Miller, G., and Jensen, E. V. Thermal Coagulation of Serum Proteins. Cancer Research, Vol. 9, no. 3:177, Mar. 1949.

Gruskin, B. Intradermal Test for Determination of Malignancy. Jour. Lab. & Clin. Med., 17:1237, 1932.



TROPICAL MEDICINE

—Concluded from page 75

enters the body and settles down within the portal vein. It is obvious that, in the extermination of these peculiar snails, which constitute the host of the bilharzia parasite, lies the only hope of curtailing its ravages. This is a gigantic task which entails the draining of streams, ponds and waterways in an unceasing destruction of these molluscs with the sulfate of copper.

This brief account is a story of the manner in which the defeat of the main tropical diseases has been, or is being, brought about. It is probably true that, perhaps with the exception of leprosy, we now possess efficient drugs which are antidotes for them all. This is the lynch-pin upon which the health, prosperity, and happiness of millions of people depend. For this happy solution a tribute should be paid to members of Britain's Colonial Medical Service, who, unread and unsung, sometimes subjected to unjust and uninformed criticism, have labored on, often amidst uncongenial surroundings, such as can hardly be realized by those who slumber by their firesides at home.

Critique of Rationale for Stilbestrol in Pregnancy Complications*

John F. Mohan, M.D.
and
Joseph L. De Courcy, M.D.
Cincinnati, Ohio

Toxemia occurs in approximately 10 per cent of all pregnancies and accounts for some 25 percent of all maternal deaths. Moreover, "the long term or residual effects resulting in hypertension and late degenerative diseases are being announced statistically as of 'profound importance.'"¹ Another 10 per cent of all pregnancies terminate in spontaneous abortion, about 9.6 per cent apparently being caused by "random" or "fortuitous" factors and 0.4 per cent by recurrent factors (habitual abortion).² Clearly, the prevention and treatment of these conditions are outstanding problems and, among all obstetric difficulties, afford the greatest opportunities for maternal and fetal salvage.

It must therefore be expected that any method of attempted prophylaxis and therapy which comes into vogue and is used on a wide scale must, sooner or later, receive the most careful scientific analysis and evaluation. As a result of cogent writings,^{3,4} stilbestrol derivatives (especially diethylstilbestrol) are being employed more and more extensively in the effort to prevent toxemias and threatened or spontaneous abortion.^{5,6,7} Nevertheless, despite the wide use of these artificial estrogens in various complications of pregnancy (and even in normal patients, for "prophylaxis"), no detailed analysis of the elaborate rationale has yet been published. Hence, it is believed that our critique, based upon a review of the literature, may be of general interest.

Rationale for Stilbestrol in Complications of Pregnancy

The following rationale has been suggested as the basis for the use of the artificial estrogen, diethylstilbestrol, in complications of pregnancy, particularly toxemias and habitual and threatened abortion:

1. Administration of the artificial estrogen will "enhance the utilization of chorionic gonadotrophin for the production of progesterone" and will—it is also claimed—cause increased secretion of progesterone by pregnant women whether normal, diabetic or toxemic.⁸

2. "Stilbestrol should prove beneficial in any abnormal situation of pregnancy in which progesterone may be etiologically involved, provided the cells which secrete the steroid hormones are still capable of functioning. . . . A progressive deficiency of the steroid hormones invariably precedes the onset of late pregnancy toxemia, eclampsia, premature delivery and intra-uterine death. . . . This deficiency is always a contributory factor to the final syndrome which precipitates the clinical manifestations."⁹ By combating the hormonal deficiency, stilbestrol "even in such conditions as essential hypertension and twin pregnancy" should "postpone the onset, lessen the severity, and possibly remove the incidence of later pregnancy complications."⁹

3. "The dosages prescribed are not enough per se to raise the estrogen level above the physiologic norm of pregnancy."¹⁰

* From the De Courcy Clinic, Cincinnati, Ohio.

The Rationale in the Light of Recent Findings

Does Stilbesterol Administration Promote Secretion of Progesterone?

The claim that administration of artificial estrogen in normal pregnancy or in toxemic states causes increased secretion of progesterone has not been confirmed. In fact, large doses of diethylstilbestrol appear to depress progesterone production.⁸ According to Davis and Fugo:⁹ "When diethylstilbestrol is administered to a woman during pregnancy, much of this material appears in the urine as a glucuronide. In . . . the assay of urinary pregnandiol, all of the glucuronides are included in the final determination. Thus diethylstilbestrol glucuronide as well as pregnandiol glucuronide appears in the result obtained. The apparent rise in the urinary pregnandiol values . . . may be due to the ingested diethylstilbestrol which is conjugated and eliminated in the urine. The figures do not indicate an increased production of progesterone and resultant increased output of urinary pregnandiol. . . . There is no evidence that it (diethylstilbestrol) results in an increased production of progesterone if urinary pregnandiol is to be regarded as an index of progesterone metabolism."

A number of other workers have questioned the postulates as well as the biochemical techniques of the studies tending to favor the use of artificial estrogens in prevention or treatment of complications of pregnancy.^{7, 10, 12}

Does Estrogen Prolong Luteal Secretion of Progesterone?

It has been postulated further that estrogens are "in some way causally related to corpus luteum activity," and may prolong or increase progesterone production by the corpus luteum in women as well as experimental animals.⁶ Brown, Bradbury and Jennings, however, have found that stilbestrol "started late in the cycle has no effect on the appearance or on the duration of the luteal phase of the cycle in women." In fact, stilbestrol administration tends to disrupt normal cycling at whatever stage

of the cycle the artificial estrogen is given, corpus luteum formation being inhibited.

Is Estrogen Deficiency a Cause of Progesterone Deficiency?

It has been claimed that estrogen deficiency is a cause of progesterone deficiency. Actually, however, urine estrogens are not invariably low, while serum estrogens have been found to be low in only about 25 per cent of toxemic patients.^{7, 12, 14} In habitual or threatened abortion, estrogen excretion levels may be normal, low or even elevated.^{7, 12, 14}

Progesterone Secretion as Related to Estrogen Level

Still another claim is that the rise in progesterone level, as observed in pregnant women at about the tenth week, is "caused" by the "preceding rise in estrogen."⁸ In many cases, on the contrary, a rise in progesterone precedes the rise in estrogen, and in the average pregnant woman, the rise in progesterone occurs almost if not quite simultaneously with the rise in estrogen.¹⁵ Thus, there would appear to be no causal connection between estrogen increase and progesterone increase.

Estrogen Level in Relation to Chorionic Gonadotrophin Level

In normal pregnancy, the estrogen excretion usually begins to increase at about the tenth week.¹⁵ This increase is preceded rather than followed by a fall in serum and urinary chorionic gonadotrophin.¹⁶ If estrogen is administered to pregnant women at about the tenth to twelfth week, the fall in serum and urinary chorionic gonadotrophin should not, for any known physiologic reason, be affected.⁹ Certainly, in the average pregnant woman, the decline in chorionic gonadotrophic production begins *before* the 70th day of pregnancy.¹⁵

Low Pregnandiol Excretion and Low Chorionic Gonadotrophin

Low pregnandiol excretion, indicating low production of progesterone, is associated with, or accompanied by, *low* rather

—Continued on page 91

A Single Injection Treatment for Abnormal Uterine Bleeding

Bertram Katzman, M.D.
Harrisburg, Pennsylvania

From the menarche to the menopause variations from the accepted normal menstrual pattern are matters of concern to both patient and physician. The basic concepts of the cyclic phenomenon of menstruation have been established and considerable progress has been made toward an understanding of the complex hormonal interrelationships known to occur.

"Uterine bleeding is regarded as abnormal when it exceeds the normal flow in duration, amount or frequency, or when it occurs intermenstrually. It is the prevailing opinion that these disturbances are largely of hormonal origin."¹ Abnormal bleeding in women where no organic lesion is demonstrable has been termed functional. This may occur at the time of the menses (menorrhagia) or intermenstrually (metrorrhagia.)

The successful treatment of "functional bleeding" presents a serious problem to the physician. Many patients have been subjected to one or more operative procedures for control of bleeding with all too frequent recurrence of symptoms at the next succeeding menses. Recent years have seen the advent of hormone therapy in the treatment of this disorder. Varying degrees of success by the use of androgens in high dosage,^{2,3} medium dosage,^{4,5} and low dosage^{6,7} have been obtained. Other investigators have claimed success with high dosage estrogen therapy⁸ and with progestin therapy.^{9,10} All these methods involve the use of multiple injections in relation to the menstrual period or the onset of the

functional bleeding. Disadvantages such as side reactions with large doses of synthetic estrogens,⁸ interruption of menses with high dosage of androgens^{2,3} and patient inconvenience are encountered. It was therefore decided to determine the efficacy of a new approach to the problem with combined androgen-estrogen therapy.

Materials and Methods

Testosterone propionate* 25 mg. per cc. and estradiol benzoate* 1.66 mg. per cc. (10,000 R. U.) in oil were administered as a single intramuscular injection to a series of 50 patients with functional bleeding.

All patients were given a thorough physical examination, red blood count, hemoglobin determination, and urinalysis. All suspicious looking cervixes were scraped and the smears stained and examined after the manner of Papanicolaou.¹¹ Endometrial biopsies were taken before and after therapy in certain instances.

Results

Table I indicates the result obtained with this therapy. Complete cessation of bleeding was obtained in 66 per cent of the cases within 24 hours and in 96 per cent of the cases within 72 hours. There were no reactions as a result of this medication. One of the cases not responding to treatment proved at operation to be a case of bilateral cystic ovaries. The bleeding stopped in the remaining case but returned again after 48 hours. A dilatation and curettage failed to control the bleeding and the patient is still under observation. In cases where biopsy was done a proliferative type of endometrium was ob-

* The testosterone propionate and estradiol benzoate used in this study were supplied as Oreton and Progyon-B through the courtesy of Schering Corporation.

served after cessation of bleeding. The endometrial pattern before therapy was frequently that of glandular hyperplasia.

TABLE I

No. Cases	Hours Required for Cessation of Bleeding	Percentage of Cases	Reactions
33	0-23	66%	None
11	24-27	22%	None
4	48-71	8%	None
2	Not Stopped	4%	None

Case Histories

Case No. 1: Mrs. Mac. Age 28, white, married, nulliparous. First seen on Sept. 29, 1947; had been bleeding since Sept. 12, 1947. Menarche age 12, normal menses until 6 months ago when patient began to have both menorrhagia and metrorrhagia. Physical examination: Normal chest and abdomen, pelvic—normal uterus and adnexa; a profuse yellowish watery discharge was present in the vagina. Laboratory: Urinalysis—negative for sugar and albumin; RBC 3,200,000; HB. 70 per cent. Vaginal Smear. Rbc, wbc, staphylococcus, Doederlein bacillus. The patient was given an injection of combined testosterone propionate and estradiol benzoate. Bleeding stopped in 12 hours.

Case No. 2: Miss R. age 24, white, nulliparous, was first seen on March 13, 1947. She had been bleeding since March 1. The patient complained of pressure pain, a "bearing-down sensation of the right side of the abdomen and a persistent vaginal discharge." Menarche age 12 years, normal menses every 21 days until time of complaint. Physical examination: Chest and abdomen negative; pelvic: normal uterus and left appendages, the right ovary was about 4 cm. long and palpably soft. A diagnosis of right cystic ovary was made and operation advised but refused. Finally on December 13, 1947 the patient was operated and a cystic right ovary removed. The left ovary appeared normal. On September 14, 1948, patient began to menstruate and was still flowing copiously when seen September 25, 1948. A diagnosis of functional bleeding was made and testosterone propionate and estradiol benzoate

were administered. Bleeding ceased in six hours. There has been no recurrence of abnormal bleeding.

Case No. 3: Mrs. K. Age 31, white, para ii, seen on September 2, 1947 complaining of heavy, prolonged bleeding since August 25, 1947. Menarche age 12, normal menses every 28 days until 18 months ago when she noted intermenstrual bleeding and irregular periods. A dilatation and curettage done 15 months ago relieved the condition for 3 months but symptoms have been recurring over the past year. The present episode was by far the most severe and necessitated frequent pad changes. Physical examination: Chest and abdomen negative; pelvic: normal uterus and adnexa. Laboratory: RBC 3,800,000; Hb 80 per cent. An injection of testosterone propionate and estradiol benzoate was given. The bleeding stopped in three hours.

Case No. 4: Mrs. L. Age 24, white, nulliparous, first seen on September 17, 1947 complaining of continuous bleeding since August 19. Menarche age 13, menses every 28 days, lasting 8 to 10 days. Occasional vague abdominal pain occurring independent of menses. Physical examination: Chest and abdomen negative; pelvic: normal uterus and adnexa, thick mucopurulent discharge tinged with blood was present in vagina. Laboratory: Smear of discharge contained staphylococci and Doederlein bacilli. A single injection of testosterone propionate and estradiol benzoate stopped the bleeding in thirty-six hours.

Case No. 5: Mrs. G. Age 34, white, para ii, gravida ii. Menarche age 15, menses every 28 days, 5-day flow moderate in amount until November, 1946. At that time abnormal bleeding began. This was controlled by vaginal packing and oxytocics after 10 days. In May, 1947 the patient suddenly hemorrhaged. Testosterone propionate and estradiol benzoate were administered and bleeding stopped in eight hours. A similar episode in October, 1947 was again controlled by testosterone and estradiol benzoate within ten hours.

Case No. 6: Miss S. Age 31, white, single, nulliparous, first seen on January 2, 1948 with a complaint of uterine bleeding of 20 days' duration. Menarche age 13, menses every 28 days, duration 3-5 days, moderate in amount. The preceding 3 menses were irregular and profuse but did not exceed 5 days. Physical examination: Normal chest and abdomen; pelvic: normal uterus and adnexa. Laboratory. RBC 3,600,000; Hb. 70 per cent (Sahli). An injection of testosterone propionate and estradiol benzoate was given. Bleeding stopped in 12 hours, began again in a few hours and continued for 48 hours when it again stopped completely without recurrence.

Summary and Conclusion

Presentation and analysis of 50 cases of functional bleeding are given with typical case histories. A single injection of combined androgen-estrogen is shown to be effective in controlling functional bleeding in 96 per cent of the cases. In women over 35, a thorough examination including a diagnostic dilatation and curettage should be performed to rule out malignancy before a diagnosis of functional bleeding is made.

Bibliography

1. Carter, A. C.; Cohen, E. J., and Shorr, E.: The Use of Androgens in Women, *Vitamins and Hormones*, 5:339-391, 1946.
2. Geist, S. H.; Salmond, U. J., and Gaines, J. A.: The Use of Testosterone Propionate in Functional Bleeding, *Endocrinology* 23:784-792 (Dec.) 1938.
3. Salmond, U. J.; Geist, S. H.; Gaines, J. A., and Walter, R. I.: The Treatment of Abnormal Uterine Bleeding with Androgens. Therapeutic Evaluation of Testosterone Propionate, Methyl Testosterone, Ethyl Testosterone and Androgen Implantation, *Am. J. Obst. & Gynec.* 41:991-1009 (June) 1941.
4. Maser, C., and Maser, M.: The Treatment of Dysfunctional Uterine Bleeding with Testosterone Propionate, *Endocrinology* 24:599-602 (May) 1939.
5. Geist, S. H., and Salmond, U. J.: Androgen Therapy in Gynecology, *J.A.M.A.* 117:2207-2213 (Dec. 27) 1941.
6. Sturgis, W. A.; Abarbanel, A. R., and Nadar, B. S.: Treatment of Menorrhagia with Testosterone Propionate. A Preliminary Report, *Am. J. Obst. & Gynec.* 39:102-106 (Jan.) 1940.
7. Abarbanel, A. R.: Rationale for the use of Testosterone Propionate in the Immediate Treatment of Excessive Uterine Bleeding, *Am. J. Obst. & Gynec.* 39:243-254 (Feb.) 1940.
8. Kruus, K. J.: The use of Diethylstilbestrol to Control Uterine Bleeding, *South. Med. J.* 37: 510-522 (Sept.) 1944.
9. Hamblen, E. C.: Some Aspects of Sex Endocrinology in General Practice, *North Carolina M. J.* 7:533-539 (Oct.) 1946.
10. Allen, W. M., and Heckel, C. P.: The Effect of Progesterone in Adolescent Girls and Young

Women with Functional Uterine Bleeding, *Am. J. Obst. & Gynec.* 44:984-988 (Dec.) 1942.
 11. Papanicolaou, G. N.: Diagnostic Value of Exfoliated Cells from Cancerous Tissues, *J.A.M.A.* 131:372-378 (June 1) 1946.

STILBESTROL IN PREGNANCY

—Continued from page 88

than high levels of serum and urinary chorionic gonadotrophin.^{13, 14} Hence, low levels of progesterone (and estrogen) are not often followed by increased production of chorionic gonadotrophin "because of failing utilization" of the latter in the production of progesterone and estrogen.

The Problem of Excessive Estrogen

Certain findings indicate that some risk attends administration of estrogen in pregnancy. Walker and Matthews have shown experimentally that estrogen may bring about vigorous but ineffective efforts to deliver young "while progesterone treatment started on the same day induced quiescence."¹⁵ Estrogen may increase the frequency and intensity of contractions of abdominal muscles and thus may bring about death of fetuses due to obstruction of the birth canal "possibly as a result of failure of relaxation in the region of the cervix."¹⁶

Summary and Conclusions

1. A critical analysis of the proposed rationale for the use of artificial estrogens (diethylstilbestrol in particular) in the prevention and treatment of the complications of pregnancy would seem to show the following deficiencies:

- (a) Administration of diethylstilbestrol does not increase production of progesterone by the corpus luteum and/or the placenta
- (b) There is insufficient evidence that diethylstilbestrol can increase the "utilization" of chorionic gonadotrophin in the production of progesterone
- (c) Certain evidence indicates that the recommended dosages of artificial estrogens in pregnancy, and especially advanced pregnancy, may cause adverse effects

—Concluded on page 94

An Evaluation of the Various Component Factors of Sperm Motility

Gerard L. Moench, M.D., F.A.C.S.
New York, N. Y.

Sperm motility as seen under the microscope is made up of three factors: the intensity of motility of the individual sperm, the percentual number of motile sperms and the duration of motility. These three components are not functions of one another nor are they related to the number or the concentration of the spermatozoa present in the semen sample. It is true that in a so-called "good" semen specimen there are usually many sperms present of which a large percentage are actively and progressively motile for many hours. However, a semen with relatively few sperm cells, or with a low percentage of motile cells, may show very active sex cells. Conversely, many sperms and a high percentage of motile forms may be present but the intensity of motility may nevertheless be below par. Again, the duration of motility varies greatly even in men of clinically proved good fertility.

Since all sperms *in vitro* are doomed it is obvious that the collection of semen samples for analysis must be carefully controlled. Thus a friction specimen obtained in the office of the examiner is by far the best from the standpoint of the examiner but unfortunately not always from the standpoint of the patient. A friction specimen produced at home is also permissible since a good semen should not show much change in 1 to 2 hours, especially if it is kept cool. Low temperatures tend to make the sperm dormant so that they conserve their energy.¹ If a friction specimen cannot be had a specimen obtained by intercourse with a condom is satisfactory as I know from personal experience. However, the semen must be removed from the condom *immediately* and placed in a clean, dry container which should not be too large since a fairly thick layer of semen

will prevent excessive gaseous interchange between semen and air. For the same reason the container should be kept tightly closed. To avoid too much contact of the semen with the condom walls it is better to slit the closed end of the condom to let the contents escape rather than to unpeel the sheath. In the case of skin condoms a 5% glucose Ringer solution is preferable to plain water. As a wetting agent, distilled water should never be used as it causes coiling of the sperm tails.² I prefer condom specimens to those obtained by coitus interruptus since ejaculation in the latter case may not be complete and thus make an estimate of the quantity of the ejaculate impossible.

Sometimes the only way in which semen can be obtained for examination is by removal from the vagina after intercourse. This method has obvious disadvantages: the semen may be diluted by the vaginal secretions and so the concentration of the sperm cells lowered, while the admixture of the acid vaginal mucus may reduce the duration of motility.

While some characteristics of a particular semen sample, such as morphology and biometrics, remain practically constant, the total number of the spermatozoa and the percentage of the less ripe and less motile forms are much affected by the frequency of intercourse. A semen sample for analysis should therefore be produced after 3 to 5 days sexual abstinence. It is not advisable to make the period of pre-examination continence too long, i.e., 2 to 3 weeks, since then aged and degenerate sperm forms will appear in the ejaculate.

Usually sperm motility is judged in conjunction with the number of sperms present. A general motion of the entire microscopic field is often, and in many instances

correctly, interpreted as satisfactory. However, where very many sperms are present their paths of locomotion may interfere with one another so that the intensity of motility of the individual sperms may well seem to be lower than it actually is. Should any doubt as to the true state of affairs exist a dilution with a favorable diluent such as a 5% glucose Ringer solution will give a truer picture of the motility actually present as it will allow the sperms to move about more freely. In line with this change of motility is the report by Elster³ that denser echinoid sperm suspensions show longer life than more dilute ones. Here again the sperms are inhibited by their very numbers and thus use up their energy more slowly. I might add that in some cases of oligospermia very active sperm locomotion is seen, more so than in many denser sperm populations. I believe a lower percentage of very actively motile sperms may be superior to a more general but only fair motility.

It is important here to stress the fact that true necrospermia is very rare. Usually total absence of motility is an artefact and must be carefully checked. Even general sluggish motility should not be accepted as the true state of motility until definitely proven to be a fact.

There seems to be general agreement that the determination of the percentage of motile sperms is the most difficult step in the evaluation of sperm motility. Indeed, using the natural semen, I have never felt too sure of my estimates.

All the spermatozoa are not motile continuously. As a result temporary immobility may be misinterpreted as permanent. On the other hand collisions of the sperm cells may impart an apparent motion to truly dead sperms. The result can only be a much confused picture.

The determination of percentual motility can, however, be carried out quite readily and accurately by the following method: A sperm count is made in the usual manner by diluting the semen in the gross with some spermaticidal agent. Personally I prefer 1% Dakin's solution because of its mucolytic action. After the number of sperms per cc. has been deter-

mined a similar dilution is made with a diluent favoring sperm motility. Here again I prefer 5% glucose Ringer solution since as far as can be judged both the percentage of motility and the duration of motility approximates the values found in the undiluted semen. Both Baker's solution (glucose 3.0, Na_2HPO_4 0.6, NaCl 0.2, KH_2PO_4 0.01, Aqua dest. 100.0) and Joel's⁴ Mg solution (5.42% dextrose solution with 2 parts of n/8 MgCl_2 , MgSO_4 , $\text{Mg}(\text{OH})_2$) seem to be too strongly stimulating and certainly cause sperm motility to be retained beyond the point at which it occurs in undiluted semen. In making the dilution with the glucose Ringer solution care must be exercised to have both the semen, previous to dilution, and the diluted semen very well stirred and thoroughly mixed so as to insure an even distribution of the sperm cells. I use a dilution which will result in 25 to 75 sperms per microscopic field. Such dilution can easily be made because of our previous experience in diluting with the spermaticidal agent. After a drop of the glucose Ringer-semen solution has been placed in the counting chamber a moment is allowed for the sperms to settle, then the cover glass is carefully applied and now only the non-motile cells which cannot escape from the fields are counted. It is now immaterial what the motile sperms do provided only that clumping is avoided and this does not occur if the dilution has been properly made and is dilute enough. Because there are now fewer cells in the field than is the case with natural semen each sperm cell can be more carefully observed. Also, since the diluent stimulates dormant cells, another component of error is avoided.

Since most investigators to-day look upon sperm motility as inherent in the sperm cells themselves and not due to the action of the seminal fluid I know of no valid objection which can be raised against the described method of determining percentual sperm motility. I have given the method here in detail since I have never seen it mentioned anywhere. Perhaps it may be of help to some of my readers.

I believe that if others will try this method they will be surprised to find that

the usual methods for determining percentual motility give values which are consistently too high. At least that has been my experience.

It is worthy of comment that Erik Blom⁸ considers otherwise normal bull sperm which shows 30% to 40% active, progressive motility as fit for use in artificial insemination.

In addition to the intensity of sperm motility and the percentage of motile forms the third factor of importance is the duration of motility. Unless unduly short the duration of motility in vitro is not too important. The process of fertilization of the ovum takes place rather promptly and the sperms cannot be assumed to live longer than 24 to 36 hours in the human female's genital tract.⁶ A good semen specimen should not show much change of motility at room temperature (70° F) in 5 to 6 hours and even after 24 hours of such temperature a fair number of sperms will be motile. The final time of complete loss of motion of all sperms, however, varies tremendously even in men of equally good fertility. Furthermore I do not believe that sperms

that are motile after an excessive length of time are still capable of fertilizing the ovum. Motility does not mean normal fertilizing power, a fact I have emphasized since 1926.⁶ Many investigators today hold the same opinion. A motile sperm does not mean a normal sperm and many palpably abnormal spermatozoa are very actively motile.

Summary: 1) Sperm motility is at times not easy to evaluate.

2) An easy method for determining percentual motility is described. It seems likely that normal fertility is possible with lower values of percentual motility than has hitherto been assumed.

3) Motility is not equivalent to fertilizing power.

27 West 55 St., N.Y.C.

Bibliography

1. Menech, G. L., *J.A.M.A.* Vol. 94, p. 478, 1930.
2. Menech, G. L., *Biol. Bull.* Vol. 56 #4 p. 267, April 1929.
3. Elster, H. J., *Arch. J. Entwickl. Mech.* Vol. 133, p. 1, 1933.
4. Juel, Ch., *Studien am Menschlichen Sperma*, Schwabe & Co., Basel, 1942.
5. Blom, Erik, *Medlemsbl. f.d. danske Dyrlægeforening*, Aug. 31, 1948, p. 446.
6. Menech, G. L. See complete literature to date of issue in *The Amer. J. of Surg.* New Series Vol. 47, #3, p. 386, 1940.



STILBESTROL IN PREGNANCY

—Concluded from page 91

2. If the artificial estrogens are of (demonstrable) value in preventing or treating pregnancy complications, then these drugs must have physiological effects not yet suggested by the rationale at present postulated for their use in such conditions.

References

1. Editorial: The Toxic State, *West. J. Surg.* 56:507 (Sept.), 1948.
2. Eastman, J. J.: Habitual Abortion, in Meigs, J. V., and Sturgis, S. H.: *Progress in Gynecology*, New York, Grune and Stratton, 1946, p. 262.
3. Smith, G. V. S., and Smith, O. W.: Observations concerning the Metabolism of Estrogens in Women, *Am. J. Obst. & Gynec.* 56:769 (Nov.) 1938.
4. Smith, O. W.; Smith, G. V. S., and Hurwitz, D.: Increased Excretion of Pregnanediol in Pregnancy from Diethylstilbestrol with Especial Reference to Prevention of Late Pregnancy Accidents, *Am. J. Obst. & Gynec.* 51:411, 1946.
5. Smith, G. V. S., and Smith, O. W.: Late Pregnancy Toxicity, I. A Review of Experimental Findings, *West. J. Surg.* 55:388, 1947.

6. Smith, O. W.: Diethylstilbestrol in the Prevention and Treatment of Complications of Pregnancy, *Am. J. Obst. & Gynec.* 56:821, 1948.
7. Javerst, C. T.; Finn, W. F., and Stander, H. J.: Primary and Secondary Spontaneous Habitual Abortion, *Am. J. Obst. & Gynec.* 57:878, 1949.
8. Davis, M. E., and Fugo, N. W.: Effects of Various Sex Hormones on Excretion of Pregnanediol Early in Pregnancy, *Proc. Soc. Exper. Biol. & Med.*
9. Davis, M. E., and Fugo, N. W.: Does Administration of Diethylstilbestrol to Pregnant Women Result in Increased Output of Urinary Pregnanediol? *Proc. Soc. Exper. Biol. & Med.* 69:436 (Dec.) 1948.
10. Bishop, P. M. F.: The Clinical Significance of Urinary Steroid Assays, *J. Endocrinol.* 5:1xxxi, 1948.
11. Brown, W. E.; Bradbur, J. T., and Jennings, A. F.: Experimental Alteration of the Human Gravid Cycle by Estrogen, *J. Clin. Endocrinol.* 8:453, 1948.
12. Rubin, B. L.; Durrman, R. I., and Miller, M.: Hormone Metabolites in Blood and Urine of Diabetic Pregnant Patients with and without Toxicity, *J. Clin. Endocrinol.* 6:347 (May) 1946.
13. Delfs, E., and Jones, G. E. S.: Some Aspects of Habitual Abortion, *South. M. J.* 41:809, 1948.
14. Delfs, E., and Jones, G. E. S.: Endocrine Patterns in Abortion, *Obst. & Gynec. Surv.* 3:680, 1948.
15. Venning, E. H.: Excretion of Various Hormone Metabolites in Normal Pregnancy, *Obst. & Gynec. Surv.* 3:661, 1948.
16. Walker, S. M., and Matthews, J. I.: Some Reactions of the Rat to Treatment with Progesterone and Estrogen in Late Pregnancy, *Proc. Soc. Exper. Biol. & Med.* 71:320 (June) 1949.

EDITORIALS

1949 and the Future

Outstanding medical achievements in 1949 were the therapeutic applications of cortisone, ACTH, neomycin, and chloromycetin. In the field of cancer research there was the

work of Andervont, Huggins, Diller and Braun, which set us well forward in our struggle with the arch enemy.

It is good to see pure medical science taking giant strides imperturbably while would-be sovietizers seek fanatically to establish tyrannical control of medical institutions and personnel. The victory of these political zealots would surely blight the fruit that now proceeds from our cherished freedoms.

Nellie's Goose Flesh

Warren P. Dearing, representing Federal health authorities, warns that "essential health services may be endangered if the medical profession does not rid itself of unwarranted fear of governmental action." Speaking before the New York Academy of Medicine on January 6, 1950, he said that this fear must be "replaced by cooperative action with representatives of local, state and national governments."

This reminds us of the old melodrama in which the villain, after unmerciful battering of the heroine, plaintively asked: "Why do you fear me, Nellie?"

Liquidation of the Exclusive-Club Type of Hospital Staff

Marcus D. Kogel, New York's Commissioner of Hospitals, has instructed his medical boards and municipal hospital superintendents not to permit the existence of small, closed professional groups within any staff organization. "Such exclusive clubs create an unhealthy atmosphere for the best work and they not only deny young people of promise promotional opportunities but



exclude new blood from participation in the work of our hospitals." The Commissioner wishes to make municipal hospitals true community institutions. A duty is owed to the physicians practicing in the areas served by

such hospitals "to integrate them as far as possible into the professional staffs of the institutions. . . . When it is not possible to give them staff appointments, arrangements should be made for easy access to 'grand rounds,' clinical conferences and other assemblies of educational value."

It appears that in the case of Queens General Hospital, Jamaica, N. Y. C., general practitioners in the area are already invited to look over and discuss interesting cases. It is expected that this plan will be extended throughout the city to keep doctors in each community better informed on new hospital techniques.

This all adds up to enlightenment and progress. It is a little breath-taking but definitely in step with the spirit of the times.

Voluntary hospitals please copy!

Patterns

It is no surprise when we find that earnest advocates of euthanasia are also vigorous propagandists for socialized medicine. It is a consistent conjunction, for the type of mind that can accept and approve either is of a certain weird but well defined pattern.

Logically, a mind so patterned should be willing to see legalized, limitedly, not only murder, but also abortion, arson and rape. Arguments for these crimes and for suicide, in certain circumstances, are conceivable, if we set up for the moment the premises and mode of reasoning which activate the mind patterned as we have stated.

Whenever an amendment to the penal law is proposed, in behalf of euthanasia, a

riders should be attached to the law or a counter measure introduced providing similarly for the limited and restricted legalization of abortion, arson, suicide and rape. We think this would be the best way to put a quietus on such a type of legislation.

If our citation of abortion, arson and rape is considered to imply too extreme a position, our answer is that there is no crime more heinous than murder; and there is no more sense in legalizing murder than in legalizing abortion, arson or rape. All are equally antisocial.

Paranoiacs in the Woodpile

The determination of politicians to make of the country one big settlement house, regardless of needs or wishes, proves a capacity for tyranny not unworthy of a dictator.

Oppressive government is tyranny, no matter where it operates.

When an unwanted and unneeded system of medical "care" is sought inexorably to be imposed upon a bitterly protesting nation, tyranny reigns. The unrelenting and unreasoning pressure betrays the true nature of the force at work. And such fanatic zeal smells of the psychiatric. There are paranoiacs in the woodpile.

Weird Finance

Medical Economics (Dec., 1949), discussing the Government's ambitious program of country-wide hospital building under the provisions of the Hill-Burton Act, wistfully asks: "Where does Uncle Sam get the idea that he has the money to do the job for them? He's already scheduled to spend \$14 billion more than he takes in during the next two years."

We feel wistful, too—also disgusted and resentful. But such purely emotional reactions do nothing to change deplorable matters.

We fancy that all reproach lies against ourselves.

Chaos in the Hospitals

The Hospital Council of Greater New York wisely points out that by finding more places on their staffs for physicians now without connections, the hospitals will

raise the standards of medical care in the city.

It seems incredible that 2,700 of the 15,000 practicing physicians in New York now lack direct connections with hospitals.

Aside from the deplorable educational situation revealed, one wonders how the Blue Cross can function fully. Here we have 2,700 doctors unable to hospitalize their patients under their own care and thousands of subscribers unable to select the practitioners of their choice.

We doubt if there is any situation in the entire social scene equalling such chaos. At any rate, the Hospital Council views the spectacle realistically and wisely, which gives us hope.

Doctor Rappleye's Report

In his report on the National Health Service of Great Britain, published and distributed by the Josiah Macy, Jr. Foundation, Doctor Willard C. Rappleye, trying hard to be fair and just, is obliged to conclude that

"Among the effects of the National Health Service reported by many observers is the concern that there will be a loss of the sense of personal responsibility on the part of the general practitioner for the welfare of his patients. It is now possible for the doctor, even though he can prescribe and obtain all the medicines and appliances he needs for his patients, to pass the responsibility for time-consuming examinations or treatment to the hospitals where specialists' services are provided by the government. There may develop a loss also of the close personal and emotional attachment of the family to the doctor. There has been some reduction in the initiative and incentive for self-development and a loss of satisfaction on the part of some general practitioners. The conscientious practitioner, however, can render very much more satisfactory services than previously, although he is handicapped by the heavy demands on his time for certificates, reports, and prescriptions.

"The total cost is very high but there seems to be general agreement that the present National Health Service is operat-

—Concluded on page 106

CONTEMPORARY PROGRESS

UROLOGY

Aureomycin Treatment of Urinary Tract Infections

H. S. Collins and M. Finland (*Surgery, Gynecology and Obstetrics*, 89:43, July 1949) report 16 cases of urinary tract infection treated with aureomycin. All the patients were adults and all but one had severe and long standing infections and most of them had been treated with one or more chemotherapeutic or antibiotic agents without any prolonged remission resulting. The one exception was a case of acute pyelonephritis complicating pregnancy. Only 4 of the patients were hospitalized during treatment. The aureomycin was given in most cases in doses of 0.5 Gm. morning and night for about a week; in some cases, however, 0.5 Gm. was given four times a day, before each meal and at bed time. The latter dosage was usually employed when a second course of treatment was given. The patient with acute pyelonephritis of pregnancy responded promptly with both relief of symptoms and a bacteriological cure. Some symptomatic relief resulted in about two-thirds of the patients; the pyuria usually diminished markedly or disappeared entirely during the period of treatment; and in most instances burning on urination, frequency and nocturia were entirely or partially relieved. Permanent good results were not frequently obtained. In 7 cases a second course of aureomycin was given, usually after an interval of two weeks, because the infection was not completely eliminated or because it recurred. Most of the organisms, both gram-positive and gram-negative, cultured from the urine in these cases were sensitive to aureomycin, and there was no tendency to develop resistance during therapy. Aureomycin was least effective against *proteus vulgaris* and *pyocyanus*. The toxicity of aureomycin was "minimal"; the most common complaint was "looseness" of the bowels not true diarrhea; with doses of 2 Gm. daily this was sometimes accompanied by nausea and occasional vomiting. There were no symptoms or laboratory evidence of damage to the kidneys, liver, or blood-forming organs. An addendum to this article states that in a larger series of cases treated since this report was completed, cases

of acute urinary tract infection cleared up promptly under aureomycin therapy, and results in chronic cases were similar to those reported in this article.

Sulfamethazine in the Treatment of Urinary Infections Due to Gram-Negative Bacilli

A. M. Rutenberg and F. B. Schweinburg (*Surgery*, 26:215 Aug. 1949) report the treatment of 24 cases of urinary tract infections with sulfamethazine (Dimethyl sulfadiazine). All these patients had pyuria and positive urine cultures; frequency, dysuria, fever and leukocytosis were among the most frequently noted clinical symptoms. The daily dosage of sulfamethazine varied from 4 to 6 Gm., given in divided doses with 2 to 2½ liters of fluid and NaHCO₃, 15 to 20 Gm. In most cases treatment was continued for five to fifteen days. Of the 24 patients treated with sulfamethazine 9 were relieved of all clinical symptoms and 10 were definitely improved clinically, although not completely relieved; only 5 showed no favorable clinical response. There were 8 cases of univalent infection; in 5 of these cases the urine was cleared by sulfamethazine; 3 strains were resistant to the drug (strains of *Agrobacter aerogenes* and one *Escherichia coli*). In the 16 cases with mixed infections, there was no bacteriologic response in 2 cases; 4 were completely cleared; and 10 cleared of some organisms but not of all. Of the gram-negative bacteria, 83 per cent of *B. proteus*, 75 per cent of *A. aerogenes*, 53 per cent of *Esch. coli* and 42 per cent of *B. pyocyanus* were removed from the urine during sulfamethazine therapy. Further analysis of these results shows that 37.5 per cent of the patients treated with sulfamethazine were cured and 41.5 per cent improved clinically and bacteriologically—a satisfactory response in 79 per cent. Of 13 patients who had had no previous sulfa or antibiotic therapy, 46 per cent were cured and 31 per cent improved. Of 11 patients who had failed to respond to sulfadiazine and sulfathiazole, 9 (82 per cent) showed a favorable response to sulfa-

methazine; 2 of these patients had also failed to respond to streptomycin. Only 2 patients had toxic reactions, one of leukopenia and one a toxic skin rash, both of which cleared up promptly when the drug was stopped. None of the patients showed cystalluria, hematuria, or azotemia. This low toxicity and the high percentage of favorable results indicate that sulfamethazine is a valuable addition to the chemotherapeutic agents employed in urinary tract infection.

COMMENT

It looks as though we were nearer and nearer a true urinary antiseptic that is efficient against infection and not irritating to the urinary or blood-making organs. In my own practice I never withdrew a drug of this type suddenly and absolutely. I rather continued it in graduated decreased doses for a month or two. It must be remembered that the infecting organisms are apt to be buried and come to the front in a short time. V.C.P.

Medical Treatment of Urinary Tuberculosis

M. Schattyn (*Journal of Urology*, 62:257, Aug. 1949), reports the treatment of tuberculosis of the urinary tract with streptomycin and the esters of chaulmoogra oil. Medical treatment is not a substitute for surgery in urinary tuberculosis, but it is of definite value both in the preoperative care of patients who can be operated on and is of value for the relief of symptoms in cases where operation is contraindicated because of bilateral renal involvement. Three illustrative cases are reported; all these patients were hospitalized, but were ambulatory; a suitable dietary and hygienic regimen was followed. All were given 1cc. of the chaulmoogra oil preparation Moogrol three times daily by in-

tramuscular injection and a total dosage of 1 Gm. streptomycin given in divided doses every six hours. All patients showed marked relief of symptoms, improvement in general well being and gain in weight; and none had any toxic or allergic reaction. One patient, who was symptom-free for a year, on re-examination showed tubercle bacilli in the urine, and as only one kidney is involved, she is being prepared for nephrectomy with another course of streptomycin and Moogrol. The second patient had had a left nephrectomy performed, but continued to show symptoms. A course of treatment with streptomycin and Moogrol was given for twenty-

five days. He has been practically free from symptoms and has maintained a satisfactory weight gain, although a guinea-pig test showed tubercle bacilli in the urine at the last examination. In the third case, the patient was completely relieved of symptoms and considered himself cured after the completion of the course of treatment; the urine was negative for tubercle bacilli at the time of his discharge. On the basis of the author's experience, no evaluation of this method of treatment in early urinary tract tuberculosis can be made, but he is convinced of its value

Malford W. Thewlis.....	Medicine
Wakfield, R. I.	
Thomas M. Brennan.....	Surgery
Brooklyn, N. Y.	
Victor Cox Pedersen.....	Urology
New York, N. Y.	
Harvey B. Matthews	
Brooklyn, N. Y.	Obstetrics-Gynecology
L. Chester McHenry	
	Nose and Throat-Otology
Oklahoma City, Oklahoma	
Madge C. L. McGuinness	
	Physical Therapy
New York, N. Y.	
Ralph I. Lloyd.....	Ophthalmology
Brooklyn, N. Y.	
Harold R. Morwarth.....	Neurology
Brooklyn, N. Y.	
Earle G. Brown.....	Public Health
	Including Industrial Medicine
Minneapolis, N. Y.	and Social Hygiene
Henry E. Utter.....	Pediatrics
Providence, R. I.	
E. Jefferson Browder....	Neurosurgery
Brooklyn, N. Y.	

in more advanced cases.

COMMENT

The tubercle bacillus is a great hide-and-seek organism. In a tuberculosis one part has healed and others are in various states of progress. Drugs may check the non-obvious lesions but the younger, fresher deposits lurk for a time and then break out. This observation is hopeful. V.C.P.

Intracaine Lubricant as a Urethral Anesthetic

B. C. Corbus (*Journal of Urology*, 62:89, July 1949) reports the use of a 2 per cent

lubricant solution of intracaine as a urethral anesthetic. Intracaine in other types of solution has been used by others for urethral anesthesia and has been found to be of low toxicity. The solution employed by the author contains phenol, boric acid, tragacanth and glycerine. Due to the incorporation of phenol in the lubricant, it has been found to be absolutely sterile; the author has found it impossible to culture any bacteria from jars or tubes containing the lubricant that are in daily use. The lubricant is water soluble and does not "fog" the lenses of the cystoscope. It coats the urethra like a paste and adheres so closely to the mucosa that its anesthetic action persists after the instrument is withdrawn. This greatly relieves tenesmus and stranguy which invariably accompany urethral instrumentation.

COMMENT

A lubricant has long been wanted. Here seems to be one which fulfils 4 needs: water solubility, anesthesia, no fogging of the cystoscopic field and relief of tenesmus and stranguy. It is hoped that time will endorse it.
V.C.P.

Neurogenic Bladder Associated with Herpes Zoster

W. A. Shullenberger and W. N. Wishard, Jr. (*Urologic and Cutaneous Review*, 53:321,

June 1949) report a case of neurogenic bladder associated with herpes zoster of the right buttock. Inability to void urine made it necessary to employ an indwelling catheter. Cystoscopic examination showed a neurogenic bladder with a few small vesical calculi. At operation of fibrotic bar was resected from the vesical neck and the calculi removed. Examination of the tissue resected showed an inflammatory reaction in the mucosa, consisting principally of lymphocytes, congestion in the muscle layers, and considerable edema throughout the whole specimen. The herpetic lesions healed, and after operation and the administration of prostigmine bromide, the bladder function was restored. No symptoms referable to the urinary tract or nervous system have been observed in this patient for three years since his discharge from the hospital. A review of the literature shows 6 cases in which herpes zoster has involved the bladder with or without associated skin lesions, but in none of these cases was there any urinary retention or other signs of paralysis of the bladder. Nor has the author learned of any other cases of neurogenic bladder associated with herpes zoster by personal inquiry among urologists. However, as herpes zoster is a disease primarily of posterior root ganglia, it does not seem unreasonable to suppose that a severe infection producing extensive lesions in the posterior root ganglia of the lower sacral segments might result in neurogenic bladder.

OTOLOGY

A New Treatment of Acute Aero-Otitis Media

B. C. Trowbridge (*Archives of Otolaryngology*, 50:255, Sept. 1949) notes that aero-otitis media is occurring with increasing frequency as the volume of passenger traffic in commercial aviation increases, especially as the precautions taken by military personnel are not observed. Since acute aero-otitis media is caused by differences in atmospheric pressure in descent, an allowable rate of rapidity of descent for commercial planes has been set by the United States Department of Commerce, but this rate may occasionally be exceeded under unusual conditions; or the allowable rate of descent may not prevent the development of aero-otitis media in persons with disease of the upper respiratory tract. The usual type of aero-otitis media in-

cidental to commercial flight is characterized by moderate retraction of the drumhead, pinkish discoloration of the tympanic membrane and the presence of straw-colored fluid containing air bubbles in the middle ear cavity, which can be clearly seen through the semi-transparent tympanic membrane. Withdrawal of the fluid by tympanotomy aspiration has been found to relieve the aural discomfort almost immediately and to shorten the period of convalescence to an average of four days. The aspiration is done with the aid of a magnifying otoscope to aid in locating the site of aspiration in the lower half of the tympanic membrane, just below and slightly posterior to the umbo. Anesthesia of the tympanic membrane is obtained by topical application of an aniline oil-cocaine solution. About 4 minims (0.25cc.) of fluid is usually obtained; in all cases in which cultures of the fluid have been made it has proved to be sterile.

As the accumulation of nonpurulent middle ear secretions is not peculiar to acute aero-otitis media alone, but occurs also in acute and sub-acute catarrhal otitis media, secretory catarrh and serous otitis media, the same method of treatment is indicated in these conditions. The removal of transudates and exudates from the middle ear prevents the organization of adhesive processes that cause permanent impairment of hearing.

COMMENT

Logical and practical. Ear drums opened in such a manner close readily without complication. Anesthesia of the ear drum is reported by many observers to be not necessary and we know of one fatality from application of the aniline-oil-cocaine solution to the ear drum. L.C.McH.

The Treatment of Chronic Purulent Otitis Media with Glycerite of Hydrogen Peroxide

Walter E. Owen (*Laryngoscope*, 59:1030, Sept. 1949) reports the treatment of 130 cases of chronic purulent otitis media with glycerite of hydrogen peroxide with carbamide. Patients were instructed to cleanse the ear mechanically once a day and to instill the glycerite of hydrogen peroxide with carbamide two to four times a day. Cultures were taken in all but 8 cases before beginning treatment; almost all showed mixed infections, *Staphylococcus*, *albus* and *aureus* predominating. The symptoms of otitis had been present for less than a year in only 34 patients, and in most cases had been present for several years. In these cases of several years' duration, previous treatment had resulted in some improvement of varying duration. Of the series reported, 14 patients failed to return for further observation, although some of these showed improvement during the period of treatment. The treatment failed to relieve the discharge and other symptoms in 5 cases; in 2 cases, there was improvement, but not complete relief. Twelve patients required more than one course of treatment, or a supplementary surgical or medical treatment, such as polypectomy, removal of a cholesteatoma, or mastoidectomy, or penicillin or sulfonamides. Three patients are still under treatment at the time of this report, with the discharge diminishing. The ear infection has been entirely cleared up in the remaining 94 patients, 8 of whom had both ears infected; 75 of these patients were completely free from symptoms by the end of the fourth week of treatment, but a few re-

quired more prolonged treatment, up to sixteen weeks in one case. Including with these 94 patients, those who required more than one course of treatment with the glycerite of hydrogen peroxide with carbamide or supplementary medical or surgical treatment before complete relief was obtained, 106 of 116 patients adequately treated have had complete remissions of purulent otitis media. None showed evidence of toxicity, sensitivity or irritation from the medication.

COMMENT

The author's results are very good. We suspect that the article does not fully indicate the degree of care he has used in cleaning up the nasopharynx and sinuses along with treatment of the middle ear. L.C.McH.

The Mastoid Incision: Endaural or Postauricular?

H. I. Lillie and K. M. Simonton (*Surgical Clinics of North America*, Aug. 1949: 1093) discuss the indications for the endaural and postauricular incisions for mastoid surgery on the basis of their own experience in the operating room, their study of the anatomic structure of the mastoid process, and on their observation of patients after operation. They conclude that the choice of incision depends primarily upon the anatomic location and the extent of the pathological process. The endaural incision is indicated for the fenestration operation for otosclerosis, and for operations where the pathologic process is limited to the region of the tympanic cavity, epitympanic space and mastoid antrum, including small cholesteatomas. The postauricular incision is the method of choice for complete mastoidectomy in acute mastoiditis, for modified radical or radical mastoidectomy in cases with chronic suppuration in unobliterated mastoid cells and in extensive cholesteatomas; for operation in cases of complications involving the dura or lateral sinus; for exploration of the petrous pyramid; and for destructive labyrinthotomy because of greater ease of tight wound closing with this incision. In cases in which the extent of the pathologic process or of the complications present cannot be exactly determined before operation, the postauricular incision is also indicated because of "its greater adaptability."

COMMENT

This is a common sense discussion of the indications for one type of incision as opposed

MEDICAL TIMES, FEBRUARY, 1950

to the other. Undoubtedly variations of these indications are justified in the hands of various operators but we are inclined to agree with the authors. L.C.McH.

Tympanosympathetic anesthesia for Tinnitus Aurium and Secondary Otolgia

B. C. Trowbridge (*Archives of Otolaryngology*, 50:200, Aug. 1949) reports the use of tympanosympathetic anesthesia in the treatment of tinnitus aurium with or without secondary otalgia. The procedure employed is the injection of 4 minims (0.25 cc.) of a 5 per cent solution of ethylmorphine hydrochloride into the tympanum through the posterior inferior quadrant. This treatment is indicated only in a tinnitus of the peripheral intrinsic type in which the tympano-sympathetic plexus is the "trigger zone," and if the vestibular mechanism is normal as shown by caloric tests. Treatments are given at four day intervals. In the majority of cases tinnitus is permanently abolished or greatly diminished by five treatments; if there is only slight improvement after the fifth injection, a second series of five injections may be given after an interval of two months. Treatments have not been given for tinnitus occurring during the acute stage of otitis media, but have given good results in the subsiding stage and in subacute otitis media. Of 20 patients treated by this method, 11 had complete relief of tinnitus and any associated otalgia; in several of these cases in which the audiogram had shown impairment of hearing, hearing was improved after the cessation of the tinnitus. In 2 patients no definite improvement was obtained; the other patients obtained a considerable degree of relief so that the tinnitus did not interfere with sleep or their mental activities. The best results were obtained in cases in which the tinnitus was of less than one year's duration. There were no harmful after-effects of the treatment; a few patients noticed slight transient vertigo but this did not persist. Closure of the site of injection in the tympanic membrane occurred immediately; and it was noted that hyperplastic and lusterless tympanic membranes regained their semitransparency and normal "sheen" after a series of injections.

COMMENT

Tinnitus has been treated in many ways and with many things and most of these treatments have been rather ineffective. We shall be very much interested in this therapy. L.C.McH.

Blast Injuries to the Ear

G. S. McReynolds and associates (*Archives of Otolaryngology*, 50:1, July 1949) report a study of the injuries to the ear in 143 patients exposed to blast injury in the Texas City explosion; all these patients were hospitalized because of more serious surgical injuries, and were kept under observation for varying periods. The tympanic membrane had been perforated in 77 ears, 25 of which healed spontaneously. In these cases the tympanic membrane was blown inward; in some cases the membrane was ruptured and blown against the medial wall of the middle ear; these findings indicate that rupture of the membrane in blast injuries is due to the positive phase of the concussion wave coming through the external auditory canal. Of the patients who had traumatic perforations of the tympanic membrane, 81 per cent were within 100 yards (92 meters) of the source of the blast; any object between the person and the source of the blast was found to give protection against injury to the tympanic membrane by the blast wave. Of those patients who showed perforation of the tympanic membrane, only 2 had been in a building at the time of the explosion; of the 91 persons who had been outside or unprotected, but who showed no damage to the tympanic membrane, 75 per cent were 100 yards or more from the source of the blast. Of the patients kept under observation for thirty days the perforations had failed to heal in only 11 instances at the end of this period. The chief aural symptoms in these patients exposed to the blast were loss of hearing and tinnitus; complaints referable to the vestibular apparatus were exceptional. In patients with perforation of the tympanic membrane, a nonpurulent discharge from the middle ear was noted, which usually persisted for several days. It was clear and colorless, and no simple test was found that would make it possible to distinguish a simple serous transudate from spinal fluid, so that the presence of this discharge involved some problems in regard to the prognosis and hospitalization.

COMMENT

This report should be read in its entirety by those particularly interested. The most important practical point for those readers who see such injuries but rarely is that most of these perforations healed spontaneously and that the authors did not use irrigations to cleanse the ears. L.C.McH.

RHINOLARYNGOLOGY

Inhalation of Penicillin and Streptomycin in Office Practice

D. Davis (*Archives of Otolaryngology*, 50:156, Aug. 1949) reports the use of penicillin and streptomycin inhalations in the office treatment of upper respiratory tract infections. The apparatus employed consists of a nebulizer connected with a face mask and a rebreathing bag and a tank of oxygen to supply the pressure for nebulization. When sinusitis alone is to be treated, nasal tips and a suction-pressure apparatus are employed instead of the face mask and rebreathing bag. Other types of apparatus are also available, some of which are briefly described. Penicillin G is now employed; it is dissolved in water, isotonic sodium chloride solution or phenylephrine hydrochloride N.N.R. to make a concentration of 150,000 units in 0.75 to 1 cc., which is placed in the nebulizer. When the solution has been entirely used, another 0.5 cc. of distilled water or isotonic saline is put into the nebulizer and the inhalation continued in order to utilize the penicillin that has adhered to the sides of the apparatus. As much as 250,000 to 300,000 units of penicillin may be used with 1.5 to 2 cc. of the diluent. Treatments are given once a day at least, and in some cases twice a day at first, depending on the severity of the condition and its response to treatment. If the infection is due to gram-positive organisms, the penicillin aerosol alone is effective. If gram-negative organisms are present, streptomycin is used either alone or in combination with penicillin; 0.3 to 0.5 Gm. of streptomycin is employed for each treatment. Inhalation treatments have been found effective in cases of acute or chronic sinusitis, nasopharyngitis, pharyngitis, laryngitis, bronchitis, bronchiectasis, cough, and asthma due to infection. For the treatment of asthma, penicillin is dissolved in phenylephrine hydrochloride solution; this solution is also employed in cases of chronic sinusitis, with hyperplastic nasal membrane, but no purulent discharge. In the treatment of sinusitis, when the nose is "clogged," the use of a vasoconstrictor sprayed into each nostril and removal of any mucus or pus present with a fine suction tube are of value before the inhalation treatment. In acute conditions, inhalation treatments for six days or less usually relieve the symptoms; in the more chronic cases, treatment may be necessary for thirty days or longer. In some cases of chronic sinusitis, not only have the patients experienced symptomatic relief, but roentgen examination has

shown a clearing up of the sinuses to a greater extent than was anticipated. In some cases it has been necessary to irrigate the maxillary sinuses, but in others the inhalation treatments with suction-pressure apparatus has proved sufficient to clear the sinuses. For inhalation treatments in infants or small children, a plastic hood is employed, which is "tucked around" the head and neck to make an air-tight tent into which the penicillin aerosol is piped.

COMMENT

We are not as yet impressed that inhalation therapy has any advantages to the patient over local shrinking and spot suction plus intramuscular penicillin or streptomycin where the organisms are not penicillin-sensitive. Nor has irrigation of the maxillary sinuses become, in our hands, a sort of bugaboo to be avoided like the plague.

L.C.McH.

Scleroma Simulating Atrophic Rhinitis

M. R. Wexler (*Laryngoscope*, 54:1026, Sept. 1949) has found that rhinoscleroma in its early stages may simulate atrophic rhinitis. The crusting in the nose and foul smelling discharge of scleroma closely resemble those of atrophic rhinitis, but when the crusts and secretion are removed, the nasal cavity in scleroma is not large, but is usually narrowed and the mucosa is reddened and infiltrated with a hard, firm substance. A biopsy should be made of an infiltrated area, or if possible from a nodule or a granulomatous area; such a biopsy specimen will usually show the Mikulicz cells and other characteristic of scleroma. In some cases in the very early stage repeated biopsies may be necessary. The bacillus of von Frisch or *K. rhinoscleromatis*, considered to be the causative organism of rhinoscleroma, is present in the Mikulicz cell and grows readily in almost all media. A smear for culture is obtained with a swab from the mucosal surface after the crusts have been removed; if this is negative in a suspected case of rhinoscleroma, a fresh piece of mucosa should be crushed and cultured; this gives a positive culture in cases in which the smear is negative. A study of 26 cases diagnosed as atrophic rhinitis at the Los Angeles County Hospital proved 7 of these to be cases of rhinoscleroma on the basis of the pathologi-

cal findings and positive culture. Most of these patients were Mexicans and Los Angeles may be an endemic area for rhinoscleroma, but these findings confirm the fact that early cases of scleroma may be mistaken for atrophic rhinitis. The differential diagnosis is important because the bacillus of Frisch is "unusually sensitive" to streptomycin and cases of rhinoscleroma have recently been reported in which treatment with streptomycin resulted in marked improvement and possible cure of rhinoscleroma.

COMMENT

Another condition for which streptomycin appears to offer a distinct advance in therapy.
L.C.McH.

Tuberculous Laryngitis and Tracheobronchitis

J. J. O'Keefe (*Annals of Otolaryngology and Laryngology*, 58:413, June 1949) reports that in 62 patients with tuberculous tracheobronchitis, tuberculosis of the larynx occurred in 27 cases. In the 44 patients with tracheobronchitis, in which bronchoscopic examination showed localized or diffuse ulcerations or inflammatory stenosis, there were 24 cases of laryngeal tuberculosis; in the 18 cases in which the diagnosis of tuberculous tracheobronchitis was made by the roentgenological findings showing bronchial obstruction, there were only 3 cases of tuberculosis of the larynx. In all the 27 cases, the laryngeal lesions were moderately advanced or far advanced, including ulcerations, granulations, and bulbous edematous lesions, with or without infiltrating stenoses. Streptomycin was used in the treatment of the 27 cases of tuberculous laryngitis; in 3 the treatment was given by aerosol alone; in 15 by parenteral administration alone and in 7, by combined aerosol and parenteral therapy. In most cases, the parenteral dosage was 1 Gm. of streptomycin daily (given in two injections of 500 mg. each), but in a few cases a daily dosage of 2 Gm. was employed. The aerosol solution employed was 50 mg. of streptomycin in 1 cc. of sterile isotonic sodium chloride solution; this was given by nebulization every two hours for a total daily dosage of 500 mg. In the 7 cases of tuberculosis of the larynx treated by combined aerosol and parenteral therapy, the lesions healed in 6 cases and showed improvement in one case. With parenteral administration of 1 Gm. of streptomycin daily, without concomitant aerosol therapy, the lesions healed in 6 of 10 cases, and showed improvement in another 2 cases; with a dosage of 2

Gm. daily given parenterally, the lesions healed in 4 of 5 cases, but there was a higher incidence of toxic reactions. With aerosol therapy, healing of the lesions occurred in only one of 3 cases, with some improvement in 2 other cases. The combination of aerosol and parenteral therapy was most effective, not only in the incidence of cure, but also in the rapidity of the response. The incidence of healing of the tracheobronchial lesions was also highest with this form of therapy. The results indicate that streptomycin is the most effective therapeutic agent yet employed in laryngeal and tracheobronchial tuberculosis.

COMMENT

This would seem to support our opinion that the antibiotics are more effective when carried in the blood stream than when applied to mucosal surfaces, even though the combined routes are here still more effective.
L.S.McH.

Tribromoethanol-Ether Anesthesia Used for Tonsillectomy and Adenoidectomy

S. C. Yinger (*Archives of Otolaryngology*, 50:290, Sept 1949) reports the use of tribromoethanol (avertin) with amylene hydrate given by rectum, for basal anesthesia, followed with either by the open drop method for tonsillectomy and adenoidectomy in patients of all ages. This method has proved so satisfactory in the past eight years that any other form of anesthesia is rarely employed. Tribromoethanol is supplied in a concentrated solution with amylene hydrate, each lcc. of the solution containing 1 Gm. of tribromoethanol and 9.5 Gm. of amylene hydrate. The dosage usually employed in the author's series was 80 mg. of tribromoethanol (40 mg. of amylene hydrate) per kilogram of body weight; occasionally in obese patients the dosage was 70 mg. per kg. With this form of basal anesthesia, the amount of ether required to maintain surgical anesthesia is considerably less than it would be if used without such basal anesthesia. In the authors series as much as 120 cc. of ether was occasionally employed for large robust adult patients, but this was unusual; in a representative group of 96 patients operated on during the month of July 1946, the largest amount of ether used was 75 cc. Tonsillectomy and adenoidectomy have been done in 3,042 cases with this type of anesthesia; there were no deaths either from the anesthetic or the operation, and there were no cases in which the operation had to be dis-

continued because of anesthetic difficulties or in which measures of resuscitation were necessary. Postoperative nausea and vomiting occurred less frequently than with other forms of general anesthesia. One of the greatest advantages of this type of anesthesia is that the patients are asleep when they leave their hospital rooms, and hence all anxiety is eliminated, and they have no recollection of being in the operating room. A complete adenoidectomy can be easily done with this type of anesthesia, whereas this has not been possible with local anesthesia in the older age groups. Bleeding in both the tonsillar and adenoidal areas is easily controlled. With the use of this type of basal anesthesia, no opiates are given

preoperatively; postoperatively, children are given codeine and adults, pantopon, as required.

COMMENT

Some years ago a number of deaths were reported from avertin anesthesia. If we remember correctly in each instance opiates were given preoperatively also. In our own practice avertin has been used for basal anesthesia followed by open drop ether for tonsillectomy and adenoidectomy in children with the advantages described by the author. We have had no untoward effects unless the fact that a few patients have remained asleep for 2 to 4 hours postoperatively is considered a disadvantage. L.C.McH.

OPHTHALMOLOGY

An Effective Method of Intracapsular Extraction

J. M. Baird *Southern Medical Journal*, 42: 877, Oct. 1949) reports 175 cases in which intracapsular extraction of cataract was done by a technique developed by Dr. Grady Clay and the author. Except for children and "unco-operative" adults, local anesthesia is employed with preanesthetic medication with nembutal. Corneal section is employed, the section being made with a keratome and enlarged with scissors. The extraction is done with short-handled Arruga intracapsular forceps; the capsule is grasped firmly, without point pressure; clockwise and counter clockwise rotation helps to break the zonular fibers. As the border of the lens is brought forward and upward, an assistant gently strokes the iris border downward at twelve o'clock, as this helps to deliver the lens through the pupil without rupture of the capsule. Stallard sutures, placed prior to the incision of the cornea, are pulled taut immediately when the lens is delivered. They are tied with three granny knots, instead of square knots, so that with the use of a metal-tip irrigator under the suture if necessary, the tension can be equalized by gentle traction and perfect apposition of the wound secured. Sutures are usually removed on the tenth postoperative day; this is done under local anesthesia, a sharp-tipped straight iris scissors being used to cut the sutures which are gently pulled out with sharp-pointed jewelers forceps. Glasses are usually prescribed in thirty days. In the 175 cases in which this operation was done, rupture of the capsule occurred in 14 cases; in 11 of these cases the retained capsule could be removed with the

Arruga forceps, introduced with the blades parallel to the plane of the iris. There were 3 cases in which loss of vitreous occurred, 7 cases of post-operative iritis, 3 cases of secondary glaucoma, and 3 cases of retinal detachment. The cases with prolapse of the iris were treated by excision of the prolapse. The only cases in which vision of the eye was lost were the 3 cases of detachment of the retina in which attempts at reattachment were unsuccessful. In 1 case in which the vision was 20-800, the patient has a coloboma of the iris and choroid; operation was done to improve the little peripheral vision that was present before the cataract developed. In 3 cases in which vision was 20-100 macular changes were present. In more than half the patients vision became practically normal.

COMMENT

This is a thoroughly detailed report and the complications inevitable in surgery of older people are included. Extraction in capsule has come to stay and each operator will find individual modifications which suit his cases and his own talents. R.J.L.

Clinical Evaluation of D. F. P. in Glaucoma Therapy

M. B. Raiford (*American Journal of Ophthalmology*, 32:1399 Oct. 1949) reports a study of D. F. P. (di-isopropyl fluorophosphate) in the treatment of glaucoma. In a series of 41 glaucomatous eyes in 21 patients, there were 33 eyes with chronic simple glaucoma and 8 with secondary glaucoma. D. F. P. in peanut oil in various concentrations was in-

stilled into the eye once daily (one drop at bedtime). A concentration of 0.1 per cent D. F. P. caused ocular discomfort, blurring of vision and pain in most instances. Lower concentrations (0.01 and 0.005 per cent) caused no discomfort, but these concentrations instilled into the eye only once a day (one drop) decreased the fluctuations of intraocular pressure by 29.5 per cent, and caused an overall reduction in the level of tension of 17 per cent during an observation period of ten months. Only one patient in the series proved refractory to D. F. P. and was returned to pilocarpine therapy with five intraocular instillations daily. One patient developed sensitivity to peanut oil so that the treatment had to be discontinued and another miotic employed. In all the other cases D. F. P. in a concentration of 0.01 or 0.005 per cent proved to be a valuable miotic in control of glaucoma. Patients were satisfied with the ease of instillation of the drug and appreciated the fact that only one instillation a day was required, and stated that their vision was clearer throughout the day when D. F. P. was used than with other miotics. The treatment was not expected to influence the visual fields to a great extent, but one patient showed a definite increase in the central fields, and in another the presence of Seidel's sign in both central fields disappeared.

COMMENT

This remedy is proving useful in many cases of glaucoma. The power to influence a glaucomatous eye of the stubborn types for which it has been used implies also reactions in some cases which may make it necessary to discontinue the remedy. For each case rescued or the inevitable postponed, we are devoutly thankful. It must be remembered that only the unfavorable cases are treated with this remedy.

R.I.L.

Penetration of Aureomycin Into the Eye

A de Roeth, (*Archives of Ophthalmology*, 42:365, Oct. 1949) reports experimental studies to determine the penetration of aureomycin into the eye, as this antibiotic has proved of value in the treatment of some external infections of the eye. Rabbits were used as the experimental animals. No aureomycin was demonstrated in the aqueous after a corneal bath; it could be introduced into the aqueous humor by iontophoresis or subconjunctival injection, but the latter method caused excessive irritation until a "full course" had been given, or

irritation. In experiments in which aureomycin was given orally or by intramuscular injection, it did not penetrate into the eye. When given intravenously in large doses aureomycin could be demonstrated in "appreciable concentrations" in the cornea, sclera, iris and ciliary body, aqueous and vitreous humors and the spinal fluid. It disappeared from the ocular tissues more slowly than other antibiotics given intravenously. Aureomycin is more irritating to the eye and penetrates less rapidly into the ocular tissues than other antibiotics, factors that may limit its usefulness in intra-ocular infections; however, the development of aureomycin is still in an early stage, and these disadvantages may be "remedied in the near future."

COMMENT

Aureomycin has done much to cure forms of conjunctivitis, especially the so-called shipyard type. We are well satisfied with what it has accomplished but it will be well worth while to study its effects on inflammations within the eye and various methods of applying it.

R.I.L.

Therapeutic Action of Streptomycin and Promizole® in Clinical Ocular Tuberculosis

A. C. Woods (*Archives of Ophthalmology*, 42:521, Nov. 1949) reports the use of streptomycin and promizole ® (4, 2-diaminophenyl 5-thiazolsulfone) in the treatment of 14 patients with ocular lesions characteristic of tuberculosis, in all but one of whom the diagnosis of tuberculosis was definitely established clinically; in this one case the diagnosis of tuberculosis was considered most probable and the eye lesions were typical. Of these 14 patients, 3 had generalized uveitis, one with concomitant scleritis; 4 had "classic" sclerokeratitis, all with anterior scleritis and pronounced corneal involvement; one had diffuse scleritis, both anterior and posterior, with proptosis; 4 had severe exudative choroiditis, all with some involvement of the anterior ocular segment with "mutton fat" deposits and Koeppe nodules; and 2 had hemorrhagic retinitis (Eales' disease). In the first case treated streptomycin was first given alone, and promizole ® begun only two weeks before streptomycin was discontinued; in the second case promizole ® was given alone for seven months and streptomycin added when an exacerbation occurred. In all the other cases streptomycin and promizole ® were given concomitantly and the combined therapy con-

some toxic symptom developed that made it necessary to discontinue one or both drugs. The dosage of streptomycin employed was 1 Gm. daily (in two doses of $\frac{1}{2}$ Gm. each); the total dosage in some cases was over 100 Gm., but as it was found that definite clinical improvement was obtained with smaller doses, the total dose was reduced to 65 Gm. and later to 42 Gm. if no toxic symptoms developed. Promizole® was well tolerated in a dose of 6 Gm. daily; a total dosage of 250 Gm. appeared to be adequate, although some of the patients were given larger amounts. It may be continued after the course of streptomycin therapy is completed, if no toxic symptoms develop. In all the 14 cases treated the inflammatory symptoms subsided completely; there was definite improvement in vision except in 4 cases, in 2 of which a mature cataract was present. While toxic symptoms developed in a large percentage of these patients, they were not serious, and when the drugs were discontinued promptly, the toxic symptoms disappeared without residua. In all cases there was a definite therapeutic response before any toxic symptoms appeared.

COMMENT

This is a welcome bit of news for those who have treated the intractable cases of uveitis. Until the action of these drugs is better understood, it will be well to hospitalize our patients at least for the early days of the treatment.

R.J.L.

Antihistamines In Ophthalmology

L. Nemeth (*British Journal of Ophthalmology* 33:665, Nov. 1949) reports the use of the antihistamine, antistine, combined with privity in the form of eye drops in the treatment of various types of allergic eye disease. The solution used contains 0.5 per cent of antistine and 0.025 per cent privity. Privity, an imidazolin derivative, checks swelling of the mucous membranes, contracts the veins and thus potentiates the antistine effects. The local application of antistine-privity eye drops has given good results in the edema of Quincke, acute and subacute conjunctivitis associated with allergic dermatitis, allergic conjunctivitis, including that of hay fever, spring catarrh, superficial keratitis, and allergic reactions to penicillin. Antistine was given orally in cases of episcleritis and uveitis of focal origin and often proved of value in these conditions. In many cases of allergic eye diseases it is difficult to determine the specific cause or to carry out specific treatment. The histamine skin-test has been found useful in the diagnosis of such allergic eye diseases; and further trial of antihistamines in treatment is recommended.

COMMENT

Treatments of this kind are usable only in large clinics or hospitals with the laboratory facilities necessary to control the administration of powerful remedies.

R.J.L.



EDITORIALS

—Concluded from page 96

ing on a reasonably satisfactory basis under all the circumstances in Great Britain, including particularly the serious condition of the national economy which has been adversely affected since about 1909 and greatly complicated by the devastating effects and crushing burdens of two world wars. It is important to emphasize again that the National Health Service is an organic part of the scheme of complete national insurance in a socialistic country. The real test of the National Health Service is ahead. Its future will be determined not by doctors, medical schools or hospitals but by the overall economic, social and financial condition of the Nation."

We very much fear that those last

sentences carry an implication for this country. We must be realistic, whatever our predilections and convictions.

The Fate in Store for the British Doctor

The British income tax supplies 90 per cent of the cost of nationalized medicine; only 10 per cent is derived from pay-roll deductions. It is only a question of time when Britain will have to reduce payments to doctors in order to reduce excessive costs (which are double what they were expected to be) with impairment of the quality of medical care as a result, since there is a limit to the raising of taxes and pay-roll deductions. The doctor, however, can always be exploited. The same outcome would be reached here should the same deplorable system ever be instituted.

MEDICAL TIMES, FEBRUARY, 1950

Medical BOOK NEWS

Edited by
ANDREW M. BABEY, M.D.



JAMES LIND
1716-1794

All books for review and communications concerning *Book News* should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn 16, N. Y. When books are sent to us with requests for review, selections for that purpose are promptly made.

Classical Quotations

● Their gums [of patients with scurvy] soon after become itchy, swell, and are apt to bleed upon the greatest friction. Their breath is then offensive; and upon looking into their mouths, the gums appear of an unusual livid redness, are soft and spongy, and become afterwards extremely putrid and fungous . . . Let the squeezed juice of these fruits [lemons] be well cleared from the pulp, and depurated by standing for some time; then poured off from the gross sediment; or, to have it still purer, it may be filtered.

JAMES LIND

A Treatise of the Scurvy, Edinburgh, Souds, Murray and Sothran, 1753.

Allergy

Psychodynamics and the Allergic Patient. By Harold A. Abramson, M.D. With Panel Discussion. St. Paul, Bruce Publishing Co., [c. 1948]. 12mo. 81 pages, illustrated. Cloth, \$2.50.

Dr. Harold A. Abramson has done an unique piece of work in his short book, *Psychodynamics and the Allergic Patient*. After a short historical review of the psychic phase of asthma, he has explained the immunologic and histamine theories and their inadequacies. Then follows a report of the round table discussion of eminent allergists and psychiatrists. One feels that he is part of the group. In spite of the various approaches and different points of view one concludes that the missing link has been established. The allergic individual should be considered as a whole. I strongly recommend the book to all allergists.

DOROTHEA E. CURNOW

MEDICAL TIMES, FEBRUARY, 1950

Radiology

Atlas of Roentgenographic Positions. By Vinita Merrill, while Educational Director Picker X-Ray Corporation. In 2 Volumes. St. Louis, C. V. Mosby Co., [c. 1949]. 4to. 663 pages, illustrated. Cloth, \$30.00 for 2 volumes.

This work consists of two volumes, 663 pages, in which are illustrated and described probably every position in which radiographs are made. The examinations described are well illustrated by photographs of the actual posture and tube centering and by a copy of the resultant radiograph. Additional illustrations are added where necessary for clarity. There are also descriptions and anatomical illustrations of the skeletal system and viscera. A glossary and bibliography are also included; this should prove to be a very valuable aid to the radiographic technician for whom this work has been published. It is to be noted that this atlas pertains to the positioning only and does not include the technical factors or x-ray physics necessary for radiography.

RICHARD A. RENDICH

Blood

Hemorrhagic Disorders. A Guide to Diagnosis and Treatment. By Paul M. Aggeler, M.D. & S. P. Lucia, M.D. Lettered and illustrated by Phyllura Gibbs, Helene Cleare & Jean Thompson under the supervision of Ralph Sweet, Chicago, University of Chicago Press, [c. 1949]. 4to. 112 pages, illustrated. Cloth, \$10.00.

This book is particularly valuable for its picture demonstrations of laboratory studies and physiologic implications of hemorrhagic disorders. This method of approach helps one to commit facts to memory with greater ease. The book is worth careful study.

ANDREW BABEY

—Continued on following page

Coronary Disease

Hypertension

Buerger's Disease

Cacodyne

AN ISOTONIC COLLOIDAL
IODINE CACODYLATE

For a more sustained and improved therapy as shown by symptom-free periods of 10 years and longer.

For Reprints and Information
Address

Research Medications, Inc.
542 Fifth Avenue
New York 19, N. Y.

MEDICAL BOOK NEWS

—Continued from preceding page

Cardiology

An Elementary Atlas of Cardiology. An Introduction to Electrocardiography and X-Ray Examination of the Heart. By H. Wallace-Jones, M.D., E. Noble Chamberlain, M.D., & E. L. Rubin, M.D. Incorporating the third edition of "Electrocardiograms." Bristol: John Wright & Sons, (Baltimore, Williams & Wilkins Co.) [1948]. 8vo. 108 pages, illustrated. Cloth, \$3.00.

This is a useful brief primer of electrocardiography and radiology of the heart. Only the more common and important conditions are displayed.

ANDREW BABEY

Proctology

Treatment in Proctology. By Robert Turell, M.D. With a Chapter on Psychosomatic Problems by Louis Linn, M.D. Baltimore, Williams & Wilkins Co. [c. 1949]. 8vo. 248 pages, illustrated. Cloth, \$7.00.

As his title indicates, the author has attempted to outline the therapy of proctologic diseases with a minimum of attention to etiology and diagnosis. The numerous colored photographs are excellent and the author's statements are sound and accurate in general.

There appears to be some preoccupation with the medical aspects of colonic disease, that is to say, gastroenterology, rather than proctology which is primarily a surgical specialty. However, the chapters on the sulfonamides and antibiotics are practical and as up-to-date as is possible in these days of rapid advance.

For years the author has been especially interested in the procedure of tattooing with mercuric sulfide for pruritus ani, and a large amount of space is devoted to this procedure which is now utilized by few proctologists besides the author. On the other hand, the limitations for the method are conscientiously noted and other treatments for pruritus ani are described.

Although elementary and far from exhaustive, this small volume should be interesting and instructive to students and general practitioners interested in proctology, as a compendium of present practice.

STUART T. ROSS

MEDICAL TIMES, FEBRUARY, 1950



Chronic osteomyelitis of 12 years' duration after compound fractures of leg. 14 surgical procedures failed to close the cavity. Pain and foul-smelling discharge caused patient to request amputation.



Treatment with Chloresium brought progressive closure of the cavity. Purulent drainage and odor stopped. Pinch grafts of granulation tissue at base were successful and cavity closed completely.

When tissue healing is a problem . . .

Chloresium Therapy

Clinically proved . . . More than 1150 cases reported in medical journals

Clinical results in over 1150 cases with Chloresium, the therapeutic water-soluble chlorophyll preparations, have now been reported in the literature by eminent clinicians.* Complete healing has been the rule in the great majority of these cases, although most of them had previously failed to respond to other methods of treatment.

The remarkable results obtained with Chloresium preparations are due to the therapeutic action of the water-soluble derivatives of chlorophyll. They are natural biogenic agents which accelerate normal

cell regeneration, thus measurably hastening the healing process. At the same time, they help control superficial infection, provide symptomatic relief and deodorize foul-smelling suppurative conditions.

We invite you to try Chloresium Ointment or Chloresium Solution (Plain) on your most resistant case—some ulcerative lesion, chronic osteomyelitis, wound, burn, dermatitis, or any other condition which calls for accelerated healing. Just mail the coupon below.

*Complete bibliography and reprints available on request.

FREE—CLINICAL SAMPLES

RYSTAN CO., INC., Dept. MT-2
7 N. MacQuesten Pkwy., Mt. Vernon, N. Y.

I want to try Chloresium. Please send clinical samples.

Dr. _____

Address _____

City _____ Zone _____ State _____

Chloresium

Therapeutic chlorophyll preparations
Solution (Plain); Ointment; Nasal
and Aerosol Solutions

Ethically promoted—at leading drugstores

U. S. Pat. 2,190,607—Other Pats. Pend.

To be Sure...
**SEAL THE CERVIX
FIRST!**



Sealing the cervix is "point number one" in successful contraception.

COOPER CREME or GEL can be relied upon completely to occlude the external cervical os instantly!

COOPER CREME and GEL are esthetic in use . . . cling to the cervix . . . adsorb seminal fluid . . . do not affect rubber . . . are effective in normal vaginal pH range.

*"No finer name in
contraceptives"*

FREE 6 COOPER Latex Diaphragms with each 12 tubes of COOPER CREME or GEL purchased by physicians.

WHITTAKER LABORATORIES, INC.

Peekskill, New York
San Francisco, California

LETTERS

concluded

from page 38a

cal Association, Vol. 108, No. 830 on page 301. The subcommittee headed by Dr. H. N. Johnson recommends that "biting dogs and suspected rabid dogs should be impounded for a period of at least 14 days." In general, the incubation period is from 21 to 60 days.

"We particularly question the advisability of anti-rabic treatment of any animal showing signs or symptoms of actual rabies, as advised in the same paragraph.

"Mass immunization of dogs when combined with other measures, is definitely indicated and has proved value. Quoting from the report of the Committee on Rabies published in the Proceedings Fifty-first Annual Meeting of the U. S. Livestock Sanitary Assn., "Vaccination of dogs should consist of at least one injection of an immunization dose of an accepted canine rabies vaccine. Evidence indicates that a single 5 cc. subcutaneous injection of an approved vaccine is effective in a mass vaccination program. However, the injection of three doses of vaccine, in 5 cc. amounts, a week apart, provides greater immunization and should be advised when practical. For permanently reducing the number of susceptible dogs, it should be suggested that dog owners have their dogs immunized annually."

"We sincerely hope that the above information will be published in order that the medical profession may be kept accurately informed. It is our opinion that by a scientific approach of the subject, including dissemination of only accurate facts, can the medical and veterinary professions jointly lead in the control and eventual eradication of a preventable disease of man and animals, such as rabies."

C. H. Anthony, D. V. M.

and

A. H. Quin, D. V. M.
Kansas City, Mo.

MEDICAL TIMES, FEBRUARY, 1950

Excel-Print[®] STATIONERY

The stationery that costs only a trifle more than the plain printed but which only experts can tell from the genuine engraved.

- ✓ SUPERIOR QUALITY
- ✓ CORRECT STYLES
- ✓ PROFESSIONAL DIGNITY

ILLUSTRATED: Letterheads, $3\frac{1}{2}$ "x8 $\frac{1}{2}$ ", and envelopes, $3\frac{1}{2}$ "x6", to match. Both 'Excel-Printed'. Our regular price: \$10.90 for 1000 of each, delivered FREE anywhere in the U.S.A.

Stationery of Distinction

WITH 22 YEARS OF REPUTATION

Free Samples and Catalogues

Samples of "Excel-Print" and plain print stationery and copy of BIG catalogue illustrating, describing, and pricing ALL items used in doctors' offices are yours on request. No obligation.

"Excel-Print" stationery is made only by us. It is a superlative product that combines an exclusive process with fine papers to create stationery that is in keeping with the dignity of your profession. You must see and inspect it to appreciate its true quality and consequent popularity. And when you compare its prices to what you now pay, or with what others are charging, you positively will not believe them to be true. Twenty-two years of organizational know-how, the finest of modern equipment and a volume that services more than 70,000 doctors, insures these statements. Let us give you all the facts.

*T. M. Reg. U. S. Pat. Off.

**PROFESSIONAL
PRINTING CO., INC.**
America's Largest Printers to the Professions
202 TILLARY ST., BROOKLYN 1, N. Y.

STATIONERY • MISACOUNT PRODUCTS
PRINTING • RECORDS • FILES & SUPPLIES

PROFESSIONAL PRINTING CO., INC.
202-208 Tillary St., Brooklyn 1, N. Y. 3-2-0

Please send me samples of stationery and copy of your BIG General Catalogue.

Dr. _____

Modern

THERAPEUTICS

Changes in the Thyroid Gland Following High Dosages of Radioactive Iodine

The use of radioactive iodine in the control of hyperactivity or cancer of the thyroid gland has raised the question as to the amount of injury to the thyroid and to surrounding tissue which would be produced by a given amount of I^{131} . In order to shed some light on this subject Gorbman reported the results of a study using mice whose thyroid glands weighed an average of about 5 mg. The mice were given subcutaneous injections of 100, 200, 400, or 1,000 microcuries of I^{131} . The mice were then sacrificed at 2, 3, 7, 24, 120, and 300 or more days following the injection of radioiodine. The mice given 1,000 c. never survived more than one

week and those given 400 c. usually died within one month. Within 2 days the 1,000 c. dose completely destroyed all thyroid and parathyroid tissue. At the end of 24 days surviving thyroid tissue was found only in the animals which had received 100 or 200 c. doses. By the end of 120 days surviving thyroid tissue was found only in the mice which received 100 c. doses and this tissue was composed of only a few atypical cells. According to the author's report in *Trans. N. Y. Acad. Sci.* (11:201 (1949)) no tendency toward regeneration was observed in these animals even after 400 days.

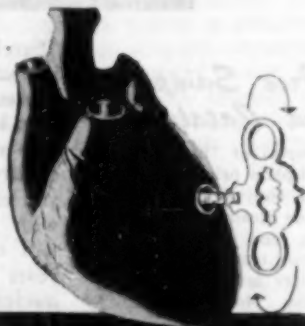
The Phenomenon of Peptic Ulcer

The cause of peptic ulcer is not known but Necheles combined some known facts and a few assumptions to build a somewhat different approach to explanation of the ulcer phenomenon. Ulcers have a predilection for the lesser curvature and pyloric areas of the stomach and the upper duodenum. Anoxemia in these areas may

—Continued on page 60a

Until mechanical means for winding-up the failing heart exist, consider this:

Digitaline Nativelle digitalizes in hours—maintains the maximum efficiency obtainable. Positive maintenance—because absorption is complete and the uniform rate of dissipation provides full digitalis effect between doses. All, with virtual freedom from side reactions.



Digitaline Nativelle

Chief active principle of digitalis purpurea (digitoxin)

MAINTENANCE: 0.1 or 0.2 mg. daily depending on patient's response.
CHANGE-OVER: 0.1 or 0.2 mg. Digitaline Nativelle replaces 0.1 or 0.2 gm. whole leaf.
RAPID DIGITALIZATION: 0.6 mg. initially, followed by 0.2 or 0.4 mg. every 3 hours until patient is digitalized.

⚡ Not an adventitious mixture of glycosides.

Send for brochure "Modern Digitalis Therapy" Varick Pharmaceutical Co. Inc. (Div. E. Fougere & Co. Inc.), 75 Varick St., New York



when
MIGRAINE
attacks

FIRST EFFECTIVE



oral TREATMENT

OF MIGRAINE ATTACK

Sandoz proudly announces the *first effective oral treatment of migraine—*

Clinical investigation¹ demonstrated that 80% of a series of cases experienced good results. Best results were obtained in migraine, histamine and tension headaches.

Friedman,² in a large series of migraine cases, found Cafergone 55% more effective than ergotamine tartrate alone.

Later reports^{3, 4} were equally favorable.

1. Horton, B. T., Ryan, R. E. & Reynolds, J. L., Proc. Staff Meet. Mayo Clinic, 23:105, Mar. 3, 1948.

2. Friedman, A. P., N. Y. State J. of Med. (in press).

3. Ryan, R. E., Postgraduate Medicine (in press).

4. Hansel, F. K., Annals of Allergy (in press).



Cafergone



(ergotamine tartrate 1 mg.; caffeine 100 mg.)

(Experimentally identified as E.C. 110)

Originality • Elegance • Perfection

SANDOZ PHARMACEUTICALS
Division of SANDOZ CHEMICAL WORKS, INC.
NEW YORK 14, N.Y. • CHICAGO 6, ILL. • SAN FRANCISCO 8, CAL.

MODERN THERAPEUTICS

—Continued from page 58a

be explained by a vagus-acetylcholine mechanism for it has been shown that acetylcholine causes vasoconstriction of the blood vessels of the stomach. There is increased vagus activity in ulcer patients thus it may be that continuous vagus activity produces acetylcholine constantly which in turn causes continuous vasoconstriction. During this anoxia the mucosa disintegrates rapidly. Continuing in his report on this subject in the *Am. J. Digest. Dis.* (16: 237 (July 1949)) the author stated that the effect of hyperacidity and of pepsin on the formation of ulcers has been overemphasized. He further stated that many investigators are coming to the conclusion that the prime factor in peptic ulcer and its distress can be found in motor disturbances of the upper gastro-intestinal tract. The author believes that the relief that ulcer patients experience from alkalis is due to a reduction in motility as is also the case with

vagotomy. The profound relaxation which follows vagotomy stops the pain and permits the healing of the stomach ulcer.

In line with the latter conclusion the author suggests that such drugs as atropine and Trasentin, by lowering gastric tone and motility and by counteracting the vasoconstrictor effects of acetylcholine on the stomach, would be more ideal agents than vagotomy for the treatment of peptic ulcers if their action could be made to be more or less continuous.

Vitamin E Potency of Alpha Tocopherol and Alpha Tocopherol Esters

Standard biological procedures showed that natural and synthetic tocopherol esters were superior in vitamin E potency to the respective tocopherols in the free alcohol form. Harris and Ludwig in *J. Biol. Chem.* (180:611 (Sept. 1949)) reported the results of assay procedures using groups of 36 rats during monthly

—Continued on page 62a

Accepted by Leading Pediatricians

Accepted by Council on Foods



**Laxative Modifier of
Milk for Constipation
in Infants**

**Borcherdt
MALT SOUP EXTRACT
(Liquid)**

**DRI-MALT SOUP EXTRACT
(Powder)**

FEATURES:

- High proportion of readily fermentable maltose encourages the growth of aciduric bacteria and retards growth of putrefactive organisms.
- Malt Soup Extract stimulates peristalsis.
- Water-soluble extractives of choice, malted barley and the added potassium carbonate contribute to the gentle laxative effect.
- Mixture of sugars (maltose-dextrins) means better toleration—no danger of gastrointestinal irritation, excessive fermentation, or diarrhea when used as directed by the physician.

Palatable... Dissolves Readily in Milk

SUPPLIED: Malt Soup Extract—Jars containing 8 fl.oz. and 1 pt. Dri-Malt Soup Extract—Jars containing 1 lb.

Borcherdt MALT EXTRACT COMPANY

Malt Products for the Medical Profession Since 1868
317 NORTH WOLCOTT AVENUE CHICAGO 12, ILLINOIS

Independent progressive action of three vasodilators identifies

RAY-TROTE improved

as a "Time Capsule"

Long Range Management of the hypertensive patient suggests the employment of *Ray-Trote Improved* capsules, the active ingredients of which are timed to give prompt relief; to afford sustaining action and to maintain lowered pressure for comparatively long periods.

Ray-Trote Improved capsules contain three effective vasodilators—Nitroglycerin—for prompt relief—Sodium Nitrite—for its sustaining action—and chemically standardized *physiologically active* Veratrum Viride—to maintain reduced pressure between doses. Phenobarbital, in a mildly sedative dose, completes this well-rounded formula which has been used by physicians with excellent results for a quarter of a century.

We are sure that you, too, will find *Ray-Trote Improved* worthy of a place in your practice. Please use the coupon for a liberal clinical supply.

Each *Ray-Trote Improved* capsule (Green) contains: Phenobarbital, 15 mg. ($\frac{1}{4}$ gr.); Sodium Nitrite, 30 mg. ($\frac{1}{2}$ gr.); Nitroglycerin, 0.25 mg. ($\frac{1}{250}$ gr.); Potassium Nitrate, 60 mg. (1 gr.); Veratrum Viride Tincture (containing 0.1% alkaloids), 0.25 cc. (4 minims); Crataegus Fluidextract, 0.06 cc. (1 minim)

For the 30% of hypertensive subjects with capillary fault—*Ray-Trote with Rutin* capsules (Yellow and Green): The above formula with 20 mg. ($\frac{1}{3}$ gr.) Rutin added.

Available at all pharmacies on prescription
OVER A QUARTER CENTURY SERVING THE PHYSICIAN

RAYMER

PHARMACAL COMPANY

Dept. MT

N. E. Cor. Jasper and Willard Streets
Philadelphia 34, Pa.

Gentlemen:

Please send me complete literature and a clinical supply of *RAY-TROTE IMPROVED*.

M. D.

Address _____

City _____

Zone _____

State _____



Eighty-one per cent of the acne vulgaris patients treated by Combes with COLLO-SUL® CREAM were cured or improved (N.Y.S.J.I. Med., Feb. 15, 1946).

Containing active, stable colloidal sulfur in a specially designed greaseless base, COLLO-SUL CREAM is used as a therapeutic cream and as a soapless cleanser. Patients will use COLLO-SUL CREAM faithfully because it is pleasant to use . . . no embarrassing sulfur odor . . . invisible on skin.

May we send you a sample, with literature and a supply of patient instruction forms?



CROOKES LABORATORIES, INC., 305 E. 45 ST., New York 17, N. Y.

62a

MODERN THERAPEUTICS

—Continued from page 60a

periods at 6 different times. The median fertility ratios were the basis for comparison. The ester form of α -tocopherol was found to have 62 per cent more vitamin E potency than the free α -tocopherol. On the basis of I.U. the biological equivalencies of the various forms of α -tocopherol were calculated as follows: 1 mg of *dl*- α -tocopherol acetate, 1; *dl*- α -tocopherol, 0.69; *d*- α -tocopheryl acetate, 1.36; *d*- α -tocopheryl succinate, 1.21; and *d*- α -tocopherol, 0.92.

Use of Dicoumarin in Glaucoma

Dicoumarin was given in an initial dose of 300 mg. to 9 patients with glaucoma. The prothrombin times of those patients were raised from a normal of between 11 and 13 sec. to 35 and 45 sec. and maintained at this level by the further administration of an average of 100 mg. a day, according to McGuire in *Am. J. Ophthalm.* (32:1095 (Aug. 1949)). Two patients who received the drug immediately after operation showed rapid improvement in the visual fields while a third patient required a second course of therapy 5 months after the first course before improvement was noted. Six other patients also showed improvement on this therapy after the tension was reduced by surgery.

Microbiological Assay for Vitamin B₁₂

The finding that *Lactobacillus lactis* Dorner responded to a factor present in liver extracts to an extent roughly proportional to their clinical value paved the way to the microbiological assay process described by Shaw in *J. Pharm. Pharmacol.* (1:685 (Oct. 1949)). The principles used in the final method are those common to all microbiological assays: the test inoculum must be minimal; the organisms in the test inoculum must be young, in a very active phase of growth, and have been maintained on a complete medium;

—Continued on page 64a

MEDICAL TIMES, FEBRUARY, 1950

*Here is what they say
about*

CAUBREN[®] COMPOUND

cold combatant

*this compound is an effective
agent in the therapy of the common cold*

Caubren Compound is remarkably effective against the common cold because it is a carefully designed cold combatant. It is more than a good antihistaminic. It is an antihistaminic PLUS... because in addition to Chlorothen Citrate (25 mg.), antihistaminic of low toxicity, it contains acetophenetidin (320 mg.) and caffeine (32 mg.), analgesic and antipyretic synergists. The caffeine also counteracts drowsiness occasionally encountered in some patients even with so mild an antihistaminic as Chlorothen Citrate.

A most recent report (Industrial Medicine And Surgery, December 1949)¹ on a controlled clinical trial of Caubren Compound states: "In 92 persons observed for an adequate period of time who were treated with a compound antihistaminic analgesic preparation,* the average duration of colds was 2.7 days as compared with an average duration of 5.3 in 74 treated with aspirin."

"Nineteen of the persons receiving the compound* had no evidences of the infection after 24 hours."

"The compound* may be administered with safety within the dosage levels prescribed because of the low incidence of toxic effects."

"This compound* is an effective agent in the therapy of the common cold, aborting the infection when administered early, abating the symptoms and shortening the duration when administered later."

*Caubren Compound: Available only on your prescription in bottles of 20 and 100 tablets.

1. Phillips, W. F. P., and Fishbein, W. L.: *Indust. Med. & Surg.* 18:526 (Dec.) 1949

Whittier

LABORATORIES • Division Nutrition Research Laboratories, Chicago 30, Illinois



MODERN THERAPEUTICS

—Continued from page 62a

and the medium must have been free from other growth factors.

The basal medium must be carefully prepared according to the directions given. The preparation to be tested is added aseptically to the medium and then the organisms are added. The length of time of incubation does not affect the assay results but the usual time of incubation is about 18 hours. After incubation the growth is then determined photometrically. Growth response curves are then prepared using about 5 concentration levels of the vitamin B₁₂ preparation and plotting the concentration as the abscissa and the photometer reading as the ordinate.

The author reported that over a long period regularly reproducible results were

obtained. The author also reported that the four factors present in liver extracts which have grown actively upon *L. lactis* can be separated by paper strip chromatography. Two of the factors have anti-anemia value and two do not.

Experimental Effect of Antibiotics on Pertussis

The growth of *Hamophilus pertussis* was inhibited *in vitro* by concentrations of 25-50 micrograms of aureomycin per cc., 0.4 to 1.2 micrograms of streptomycin per cc., and 0.5 to 1 microgram of polymyxin B per cc. On treatment of infected mice with 10 to 100 mg. of aureomycin per Kg. per day intraperitoneally for 5 days starting 6 hours after infection 90 per cent of the mice survived. However, when

—Continued on page 66a

★ for safe and effective
treatment of chronic constipation

L.A. FORMULA

L.A. Formula is indicated in the safe and effective prevention and treatment of chronic constipation. It supplies bulk and lubrication to the intestinal contents by absorbing water and produces normal peristalsis. L.A. Formula is easy-to-take and pleasant-to-take and furthermore, it's economical. Prescribe it in the next case of chronic constipation. Send for a sample now.

Contains Plantago Ovata Concentrate with 50% dextrose as a dispersing agent.

MANUFACTURERS OF KONSYL®

BURTON, PARSONS & COMPANY

WASHINGTON 9, D. C.

★ THE ORIGINAL PLANTAGO OVATA CONCENTRATE

***a major step
in rehabilitation of the
parkinsonian patient***

PANPARNIT^{T.M.}

Known previously to investigators as PARPARNIT.



Treatment of the Parkinsonian syndrome with PANPARNIT was observed by Schwab and Leigh¹ "to be superior to the previous medication" in 65% of cases. With a careful regimen of gradually increasing dosage, "very satisfactory results with this new compound will follow."

By reducing rigidity and tremor PANPARNIT frequently enables the Parkinsonian patient to resume a more nearly normal life... to perform simple daily tasks, to feed, to shave, and to dress himself. Improvement of physical status leads to increasing self-reliance and a happier frame of mind—a major step toward mental as well as physical rehabilitation.

A totally new synthetic drug, PANPARNIT offers the advantages over the belladonna alkaloids of frequently affording more satisfactory relief and rarely causing disturbances of vision or dryness of the mouth.

1. Schwab, R. S. and Leigh, D.: J.A.M.A. 119:629, 1949.



Fuller information regarding clinical studies and suggested dose schedules will be furnished gladly.

PANPARNIT (caramiphen hydrochloride): Available as sugar-coated tablets 125 mg. (bottles of 100) and 50 mg. (bottles of 50, 250 and 1000).

GEIGY COMPANY, INC., 89-91 Barclay St., New York, N. Y.

MODERN THERAPEUTICS

—Continued from page 64a

treatment was discontinued the second week many of the mice died. Ten mg. of polymyxin B per Kg. per day increased the survival time and rate more markedly than aureomycin with resulting negative lung cultures in 80 to 100 per cent of the surviving mice. Results similar to the latter were obtained with 50 to 100 Gm. of streptomycin, according to Bradford and Day in *J. Pediat.* (35:330 (Sept. 1949)).

Anemia As A Complication Of Streptomycin Therapy

Aplastic anemia developed in 2 patients following 79 and 93 days respectively of streptomycin therapy for tuberculosis. Moyer and Womack reported this development

in *Bull. U. S. Army Med. Dept.* (793 (Sept. 1949)). They describe the case history of one of these patients who had extensive tuberculous involvement of the both lungs and of the larynx. The blood picture was 4,200,000 RBC, 7,000 WBC, 80 per cent Hb and a differential of 38 polymorphonuclear cells, 41 lymphocytes, and 1 eosinophile at the beginning of therapy. The patient received 100 mg. of streptomycin intramuscularly every 4 hours and 100 mg. by aerosol three times a day and was placed on a high caloric diet. In the 13th week of therapy the patient suddenly developed severe hematemesis, air hunger, shock and cutaneous petechiae. The blood picture was then 1,800,000 RBC, 2,700,000 WBC, and a differential of 1 polymorphonuclear cell and 99 lymphocytes. The patient died despite immediate blood transfusions and supportive therapy. Autopsy revealed healing of the

—Continued on page 68a



Gentle, prolonged sedation...

PEACOCK'S BROMIDES

affords the gentle, prolonged sedation indicated in insomnia, hysteria, epilepsy, and the various neuroses.

OD PEACOCK SULTAN CO.
Pharmaceutical Chemists
4300 PARKVIEW - ST. LOUIS 10, MO.

Each teaspoonful contains 15 grains of pure bromide salts.





"...what precious drops are these"

Shakespeare

TWO PRODUCTS OF OPTIMUM ACCEPTABILITY

OL-VITUM Drops. For a highly palatable multi-vitamin dietary supplement, that is completely dispersible in food or any aqueous fluid, Ol-Vitum Drops are meeting a gratifyingly high professional acceptance. Like all IVC products, they are found to be **CLINICALLY ECONOMICAL**.

Each cc contains:

Vitamin A	10,000 USP Units	Vitamin E	1.6 milligrams
Vitamin D	2,000 USP Units	Niacin Amide	15 milligrams
Vitamin B ₁	3 milligrams	Natural Mixed	
Vitamin B ₂	0.8 milligrams	Tocopherols	3 milligrams
Vitamin C	100 milligrams	(Equivalent to 2.25 milligrams alpha Tocopherol Acetate)	

AD-VITUM Drops. In vitamin therapy or dietary supplementation where high potency of the A-D combination alone is indicated, Ad-Vitum Drops are especially desirable. Like its companion product, Ad-Vitum Drops are palatable, will mix with food or any aqueous fluid and again are **CLINICALLY ECONOMICAL**.

Distilled Vitamin A Ester,
Vioosterol in Oil, Sorbitan
Fatty Acid Ester deriva-
tive, Vegetable Oil and
Glycerin in a flavored
aqueous vehicle.

Each cc contains:

Vitamin A	30,000 USP Units
Vitamin D	5,000 USP Units

For samples and additional
information, address Profes-
sional Service Division,
Ives-Cameron Company, Inc.,
New York 16, N. Y.



INTERNATIONAL VITAMIN DIVISION
IVES-CAMERON COMPANY, INC.

NEW YORK 16, N. Y.

MODERN THERAPEUTICS

—Continued from page 66a

tubercular lesions but the bone marrow was aplastic with fat cells replacing most of the marrow.

Studies of the Absorption, Excretion, and Acute Toxicity of a Sulfonamide Mixture

Sixty-one patients ranging in age from 12 to 85 years with a variety of diseases were treated with a mixture containing equal parts of sulfapyrazine, sulfadiazine, and sulfamerazine in 0.5 Gm. tablets. Treatment was continued for 2 days or more in 58 and for 5 days or more in 24. The dosage varied but 50 received an initial dose of 4 Gm. In 21 who were given subsequent doses of 1 Gm. every 4 hours the blood levels were more than 15 mg. per cent in 60 per cent of the patients. In 19 given a 1 Gm. dose every 6 hours

the blood levels were 10 to 15 mg. per cent in 11 patients and in 10 patients given the same dose every 8 hours the maximum blood levels were less than 10 mg. per cent in 6 patients. In most of the patients the blood levels fell to 2 mg. per cent within 2 days of the cessation of treatment.

No serious toxic reactions occurred but gastrointestinal reactions were sufficiently severe to cause the withdrawal of the drugs from 3 and rash caused the withdrawal from 1 patient. Crystalluria occurred in 21 patients but was marked in only one patient and showed no correlation with blood levels of the drug.

Use of Nisulfazole in the Treatment of Ulcerative Colitis

A 10 per cent suspension of Nisulfazole (*p*-nitro-N-(2-thiazyl) benzenesulfonamide was administered rectally in doses of 1 to 2 ounces 8 to 12 times a day in acute cases

—Continued on page 70a

ACTIVE INGREDIENTS
Zinc Chloride - Menthol
Formaldehyde - Saccharine
Oil Cinnamon - Oil Cloves
Alcohol 5%

LAVORIS
MOUTHWASH AND GARGLE

Inflamed Mucous Membranes

A PRODUCT OF MERIT FOR NEARLY 50 YEARS

THE LAVORIS COMPANY • MINNEAPOLIS 1 MINN

DOCTOR

... Inflamed or atonic mucous membranes, wherever accessible, respond to the astringent, cleansing and stimulating action of Lavoris.

Its agreeable properties assure the cooperation of the patient.



**a smart move
every time**

Tens of thousands of doctors throughout America — and in many foreign lands, too — know by experience that National Instruments are outstanding in functional efficiency and give long lasting satisfaction.



**"Center-of-Beam"
HEADLIGHT**

With reflecting mirror for oblique lighting and sight opening for sharp, shadow-free vision directly through center of beam. Instantly convertible to direct type headlight.

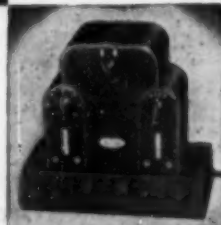


**Lifetime Guaranteed
DIAGNOSTIC SET**

Includes Double-Disc Ophthalmoscope, Standard Oscope with Metal Head, 6 Specula, Tongue Depressor Holder, Straight Metal Trans-Illuminator, Laryngeal Clip-Mirror, Spare Bulbs, Case. User-Lifetime warranty.

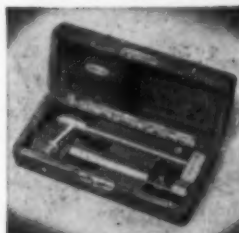
**Simplified Control
CAUTERY SET**

Most complete unit of its kind. Includes Transformer, Pistol with Gyn-A-Lite Clip Set and 3 Tips. Used by more doctors than any other cautery unit.



**For Coagulation, Ful-
guration, Desiccation
ELECTRICATOR**

No foot-switch fumbling. One handle takes both bi-polar and mono-polar applicator needles interchangeably (6 types). "Attenuator-Control" knob for smooth power.



**For Eustachian
Inspection
NASOPHARYNGOSCOPE**

With exclusive Fostar Lens System. Remarkable brilliance, sharpness and improved magnification over greater width of field. Clear, longer, sharper inspection.



**Instant Comparison
TWIN
TRANSILLUMINATOR**

Simultaneous and positive comparison of both sinuses, eyeballs, pupils, irides, anterior chamber, conjunctiva, etc. Adjustable to all facial measurements.

**Lifetime Guaranteed
OTOSCOPE**

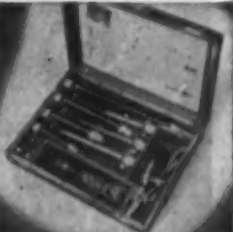
All-Metal Head. Brightest illumination, flashlight bulb; "Lazy-Latch" Holder grips specula firmly.

**Lifetime Guaranteed
Single & Double-Disc
OPHTHALMOSCOPES**
Precision-made with May Illuminating System.



BODY CAVITY SET

Complete for all cavities, all ages, both sexes. Self-illuminated instruments with insulating and magnifying means. Specula non-conductive electrically for safe use with cautery or equivalent.



National

ELECTRIC INSTRUMENT CO., Inc.

82-21 Corona Avenue, Elmhurst, N. Y.

World-Famous Makers of
Electro-Medical Instruments

National Electric Instrument Co., Inc.
82-21 Corona Ave., Elmhurst, N. Y.

Send me complete information on

- ☐ Headlight ☐ Electricator ☐ Twin-Transilluminator
☐ Diagnostic Set ☐ Nasopharyngoscope ☐ Oscope
☐ Cautery Set ☐ Body Cavity Set

Name

Address

City

Zone

State

MODERN THERAPEUTICS

—Continued from page 68a

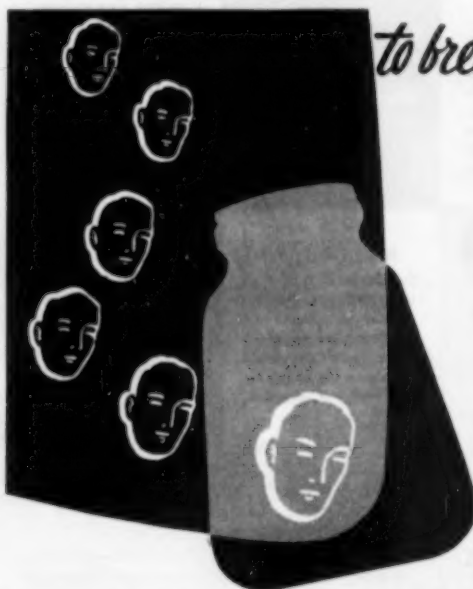
of ulcerative colitis when sigmoidoscopic examination showed that only the rectum and lower colon was involved. When it was shown that the entire colon or more was involved 4 to 6 Gm. were administered orally each day in addition to the rectal therapy. Willis stated in the *Rocky Mt. Med. J.* (46:743 (Sept. 1949)) that the suspension spread well and coated the mucosal surface of the rectum and colon for a period of 2 to 6 hours. Nine patients in the active phase showed rapid improvement but 1 relapsed several months after treatment had been stopped and did not respond to the drug following the relapse. In most cases continuing therapy was required to maintain improvement. Of 10 patients in the active phase of the chronic stage 7 showed lasting improvement but 3 had intermittent exacerbations and remissions of varying severity. Nisulfazole

had little or no effect on 4 patients who were in the polypoid hyperplastic stage of the chronic phase. Two patients showed persistent nausea which required the discontinuation of oral therapy.

Dosage Regimen of Penicillin G

The white rat was used as the experimental animal to evaluate the effectiveness of various dosage regimen of penicillin G against a fulminating pneumococcal infection. The results of the study as reported by Schmidt, Walley, and Larson in *J. Pharmacol.* (96:258 July 1949)) showed that when the treatment interval was 8 hours or less 2 doses of sodium penicillin G administered 4 hours apart were significantly more effective than a single dose or than 2 doses separated by an 8 hour interval. When the treatment interval was 96 hours divided doses of the sodium salt administered at 2, 4, or 8 hour intervals were much more effective than divided

—Continued on page 72a



to break the cathartic habit

Treatment of constipation is more a problem of colonic rehabilitation rather than continued punishment by harsh cathartics.

ZYMENOL offers the enzyme action and natural B-Complex of Brewers Yeast to restore physiologic bowel function. Pleasant tasting . . . safe . . . mild . . . non-habit forming. Widely prescribed from Pediatrics to Geriatrics. Convince yourself. Write for a FREE 14 oz. (\$1.25) trade package for your professional use.

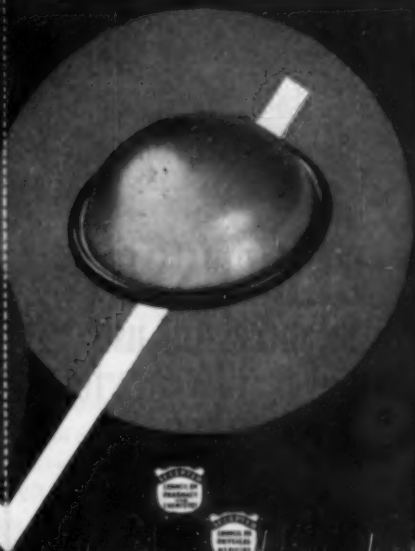
Zymenol

AN EMULSION WITH BREWERS YEAST

FOR EFFECTIVE BOWEL MANAGEMENT

OTIS E. GLIDDEN & CO., INC. • EVANSTON, ILLINOIS

Two-Way Protection



TO MINIMIZE THE ELEMENT OF CHANCE

The element of chance in conception becomes an element of danger when pregnancy or childbirth is contraindicated. To reduce this risk to the lowest minimum, many authorities recommend the combined use of the Lantene Flat Spring Diaphragm and Lantene Jelly.

By prescribing the Lantene Diaphragm and Jelly method of contraception, the physician assures his patient:

1. **DEPENDABLE TWO-WAY PROTECTION.** Continued use of the Lantene Flat Spring Diaphragm and Lantene Jelly provides effective mechanical-chemical protection against

pregnancy—the barrier effect of the diaphragm augmenting the potent sperm-destroying action of the jelly.

2. **CLOSE MEDICAL SUPERVISION.** The use of the improved Lantene Technique encourages the return of the patient for medical supervision at regular intervals and discourages "over-the-counter" prescribing. With the combined use of the Lantene Flat Spring Diaphragm and Jelly, return visits for periodic fittings enable the doctor to correct faulty patient technique, make necessary changes in the diaphragm size and maintain check on the patient's health.

Write for a complimentary copy of the illustrated brochure, "Improved Method of Contraception."



Lantene

Lantene Jelly, Lantene Flat Spring Diaphragm, and Lantene Technique are registered trademarks of Lantene Medical Laboratories, Inc., 3020 Greenwood Street, Evanston, Illinois.

Leaders in the Development of Contraceptive Methods

LANTENE MEDICAL LABORATORIES, INC., 3020 GREENWOOD STREET EVANSTON, ILLINOIS



PERTUSSIN in successful use for over 30 years for **COUGHS** in

- Acute and Chronic Bronchitis
- Paroxysms of Bronchial Asthma
 - Whooping Cough
 - Dry Catarrhal Coughs
 - Smoker's Cough

In Pertussin—the active ingredient—Extract of Thyme (unique Taeschner Process) effects relief of coughs not due to organic disease, because it:

1. Relieves dryness by stimulating tracheobronchial glands.
2. Facilitates removal of viscid mucus.
3. Improves ciliary action.
4. Exerts a sedative action on irritated mucous membranes.

Pertussin is entirely free from harmful drugs of any kind. It is well tolerated by adults and children and is pleasant to take. It has no undesirable side action.



MODERN THERAPEUTICS

—Continued from page 70a

doses at intervals of 12 to 24 hours. The administration of procaine penicillin G given at 24 hour intervals was much more effective than the sodium salt given at this interval but was less effective than the sodium salt given at intervals of 2, 4, or 8 hours. Determination of the blood plasma levels of penicillin following equally effective concentrations of both the procaine and the sodium salts of the antibiotic revealed that inhibitory concentrations were present in the blood for only a small fraction of the dosage interval. The authors therefore concluded that although their findings showed that the effectiveness of penicillin therapy is related to the dosage interval there was no support found that would substantiate that the effectiveness of therapy is dependent upon the maintenance of continued inhibitory concentrations of the antibiotic in the blood.

Aureomycin Therapy in Pneumonia in Children

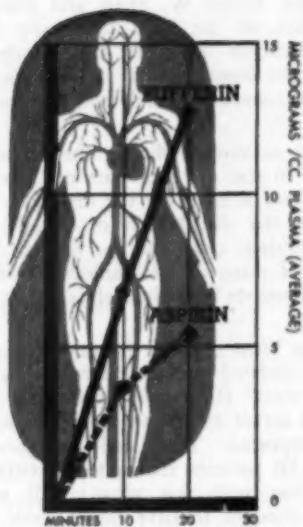
Aureomycin was given to 39 patients between 3 months and 11 years of age who had bacterial or viral pneumonia. The dosage in bacterial pneumonia averaged 63.5 mg. per Kg. per day orally and in the viral condition the average was 45.5 mg. A few children were given an average of 6.5 mg. per Kg. intramuscularly each day in 3 divided doses. Olshaker, Ross, Recinos, and Twible, writing in the *New England J. Med.* (241:287 (Aug. 25, 1949)), stated that the results were good in 24 of 30 cases of bacterial disease, in 11 of 16 with pneumococcal disease and in 5 of 5 with viral pneumonia. Four of those with viral pneumonia had not responded to penicillin, sulfadiazine, or a combination of these agents. The fever and white blood cell count fell more rapidly and the pneumonic processes cleared more rapidly following oral therapy than with intramuscular therapy. The only toxic effects were nausea, vomiting or diarrhea in about 5 cases.

MEDICAL TIMES, FEBRUARY, 1960

higher blood salicylate levels
more quickly with

BUFFERIN

ASSURES PROMPTER ANALGESIC ACTION



COMPARISON OF BLOOD
SALICYLATE LEVELS AFTER
INGESTION OF ASPIRIN AND
BUFFERIN



It is **BUFFERIN's** speedier absorption into the blood stream which promotes its more rapid analgesic action. Within 10 minutes after its ingestion the blood salicylate levels are as great as those attained by aspirin in twice this time. In 20 minutes **BUFFERIN's** blood salicylate levels are double its 10 minute levels.

BUFFERIN is better tolerated—an added advantage. Gastric distress—sometimes found when aspirin is taken—is almost unknown when **BUFFERIN** is the analgesic used; for, in addition to its 5 grains of acetylsalicylic acid, it provides optimal proportions of the antacids magnesium carbonate and aluminum glycinate.

Patients appreciate the "**faster pain relief with better gastric tolerance**" which **BUFFERIN** provides.

INDICATIONS: — For the relief of simple headaches and neuralgias, dysmenorrhea, muscular aches and pains, and the discomfort of gripe, colds, minor injuries, and especially, for those rheumatic and arthritic conditions requiring intensive and prolonged salicylate therapy . . .

BUFFERIN is available in vials of 12 and 36 tablets and in bottles of 100.

BUFFERIN IS A TRADE-MARK OF THE BRISTOL-MYERS COMPANY

A PRODUCT OF BRISTOL-MYERS • 19 WEST 50 ST., NEW YORK 20, N. Y.



NO MORE ROUGH HANDS OR DRIED OUT SKIN

LAMO (Nason's) is a mildly medicated skin cream — refined lanolin in a bland, cold-cream type base — developed especially for the skin protection and care of nurses and doctors. LAMO has none of the objectionable features of lanolin alone; it is not gummy, greasy, stringy or unpleasant smelling. It has consistent body, does not dry out or become rancid, and is delicately perfumed. LAMO (Nason's) supplies beneficial fatty materials lacking in dry skin, or which may have been removed from normal skin by the continued use of strong detergents, as in pre-operative scrubbing of hands and arms, and gives lasting protection to the skin.

Tailby-Nason Company, Boston 42, Mass.

Send for **FREE** Sample

TAILBY-NASON COMPANY
48 Amherst Street, Boston 42, Mass.

Please send me **FREE** sample tube of LAMO.

Name

Street

City State

NEWS AND NOTES

Doctors Report New Virus Disease Resembling Nonparalytic Polio

Occurrence of a new virus disease resembling mild poliomyelitis was reported separately today by doctors from New Haven, Conn., and Providence, R. I.

The new disease occurred among residents of Connecticut and Rhode Island during the polio season last summer and fall, the doctors said in a recent issue of the *Journal of the American Medical Association*.

The New Haven doctors—Edward C. Curnen, Ernest W. Shaw and Joseph L. Melnick of the Yale University School of Medicine—said that their study indicates the disease has a seasonal incidence in the summer and fall and may be common.

"Its occurrence during the summer of 1948 in the southern part of New England may account for the discrepancy noted in the distribution of paralytic and nonparalytic cases and for the mild character of many of the illnesses which were considered to be poliomyelitis," they pointed out.

The virus causing the new disease has been isolated and tentatively called the "IM virus" (because it causes fatal paralysis in infant mice), the New Haven doctors reported. Their study was concerned with 10 patients shown to be victims of infection with this virus. All at first were thought to have nonparalytic poliomyelitis or "meningitis of unknown origin."

Typical symptoms of the disease as described by the New Haven doctors were fever, headache, nausea, pain in the abdomen and arms and legs, stiffness in the neck or back and drowsiness.

These symptoms so closely resemble those of nonparalytic poliomyelitis that doctors may not be able to distinguish between the diseases in some cases, the New Haven doctors said.

—Continued on page 76a

MEDICAL TIMES, FEBRUARY, 1950



*the original American
injectable*

COLLOIDAL SULFUR in ARTHRITIS

The growing importance of colloidal medication emphasizes the value of Sulisocol in certain types of arthritis... particularly those cases exhibiting low cystine content of the fingernails, and osteoarthritis.

Sulisocol is sterile, aqueous clear and stable... will not agglomerate nor precipitate... reversibly sensitive to acid or alkali blood balance, readily assimilable... detoxifying to fortify general defensive processes.

In your cases of arthritis marked by increased sedimentation rate, or by "shift to the left" in nonfilament count, give patients the benefit of this modern, efficient treatment... prescribe

sulisocol[®]

Injectable Colloid Sulfur

Available in boxes of 12, 25 and 100 ampuls... 2 cc., 3 cc. and 5 cc. size.

Each cc. contains 10 Mgm. inorganic sulfur as sodium compounds in aqueous protected colloid sol.

**other "drugprod"
specialties**

myopone
*original injectable
vitamin E*

metanite
spasmolytic — low toxicity

natrico-visnico
ideal hypotensive team

naotin
parenteral nicotinic acid

literature to physicians on request



the drug products co., inc. east orange, new jersey

four decades of service to the medical profession

NEWS AND NOTES

—Continued from page 74a

Although none of the patients studied became paralyzed, evidence is insufficient to warrant the assumption that paralysis has not resulted from infection with the new virus, the doctors added.

In a separate article in the same issue of *The Journal of the A.M.A.*, the Providence doctors—Alexander A. Jaworski

and Edward J. West of the Charles V. Chapin Hospital—reported 18 cases of the disease. All these patients had a short illness and recovered completely with treatment aimed at making them more comfortable, the article said.

Increase in Occupational Therapy Students

The largest number of students in history now are enrolled in the occupational therapy curriculum at the University of Illinois College of Medicine.

There are approximately 90 students registered in the curriculum on the Urbana and Chicago Professional Colleges campuses, it has been reported.

The occupational therapy curriculum was established at the University in 1943. To qualify for the bachelor of science degree in occupational therapy, which is awarded by the College of Medicine, students are required to spend three years on the Urbana campus, and 16 months in Chicago.

Following the completion of their work, graduates are eligible to take the examination for admission to the National Registry of Occupational Therapists.

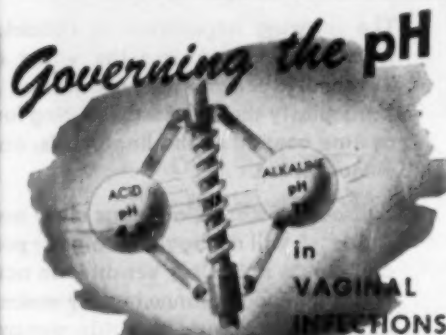
A.M.A. Council Warns Against Unwise Use of Cold Tablets

The Council on Pharmacy and Chemistry of the American Medical Association at a recent meeting warned against indiscriminate use of antihistaminic substances now being widely promoted for prevention and treatment of colds.

The council said:

"The council recognizes the evidence

—Continued on page 78a



Delta-Pulvis (Neland)

ALPHA

AN ACID DOUCHE POWDER

Contains: Boric acid, Lactic acid, Sodium Lauryl Sulfate, Thymol, Menthyl, Eucalyptol, and Methyl Salicylate.

Delta-Pulvis (Neland)

BETA

AN ALKALINE DOUCHE POWDER

Contains: Sodium Perborate, Sodium Lauryl Sulfate, Thymol, Menthyl, Eucalyptol, and Methyl Salicylate.

For effective control of both pH extremes in the therapy of many vaginal infections, particularly *T. Vaginalis* or *Moniliasis*.

Samples and Literature on Request

NELAND PHARMACEUTICAL INC.

HARTFORD, CONNECTICUT

Stocked by leading wholesale druggists

DR. BARNES SANITARIUM

Stamford, Conn.

An ideally located and excellently equipped Sanitarium, recognized by members of the medical profession for forty-two years for merit in the treatment of

NERVOUS AND MENTAL DISORDERS, ALCOHOLISM AND CONVALESCENTS

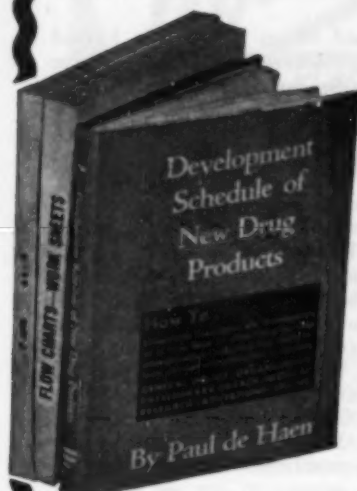
Equipment includes an efficiently supervised occupational department, also facilities for Shock Therapy.

Reasonable rates—full particulars upon request.

F. H. BARNES, M.D.

Stamford 2-1623

Est. 1890



The future of the drug industry depends on the EFFICIENT development of new drug products

Paul de Haen's

DEVELOPMENT SCHEDULE OF NEW DRUG PRODUCTS

describes how to efficiently coordinate the development program —

• • • "departmental administration forms and charts, — focus attention of the various 'must' steps in development required from each department in order to prevent the frequent 'bog down' in the matter of integration. Such a system—can readily be modified if necessary to suit the needs of any particular company."
—*Drug & Cosmetic Industry*

• • • "shows graphically the action which must be taken by each department at every step from the preliminary preparation to the final detailing and advertising."
—*Drug Trade News*

• • • "This is no book to be purchased, examined hurriedly and placed on a library shelf to gather dust. Rather it is a practical, working guide that should find a place on the desk of every individual whose charge it is to direct the introduction of a new product in the field of medicine."—*Medical Marketing*

• • • "Even the experienced product development director will find the monograph useful in checking his own procedures or in comparing his views with the author's."—*Bull. of The Parenteral Drug Assoc.*

• • • "It should prove to be a good teaching tool in manufacturing Pharmacy in the colleges."—*American Professional Pharmacist*

\$750 FOR THE
BOOK ALONE

\$1500 with five extra sets of
charts and work sheets

ROMAINE PIERSON PUBLISHERS, INC.

American Professional Pharmacist — Medical Times — Scientific Textbooks

67 WALL STREET

NEW YORK 5, N. Y.

NEWS AND NOTES

—Continued from page 76a

that has been accumulated relative to such uses but it is not convinced that this is sufficient to warrant the positive statements that are being made.

"Cases already are reported and records show that about one third of those who take these drugs become drowsy or even fall asleep while at work or in occasional cases even when driving cars or operating machinery.

"Experience with these drugs is not yet long enough to know whether or not they are harmless when used over long periods of time. Furthermore, the amounts taken in persistent colds may be definitely beyond what has been established as safe.

"The council expects to publish a careful review of the present status of these products so that physicians who prescribe them may be aware of the possibilities."

Radiological Health Branch Established

Formation of a new unit under the Public Health Service, Federal Security Agency, to develop a radiological health program to meet potential health hazards created by increased use of radioactive

materials and radiation-producing machinery was announced today by Acting Federal Security Administrator John L. Thurston.

Established within the recently formed Engineering Resources Division of the Public Health Service, the new unit is known as the Radiological Health Branch and is under the direction of Dr. Edwin G. Williams, a Public Health Service medical director.

The Radiological Health Branch will correlate radiological health activities in the Public Health Service, develop a training program in radiological health for Service officers and other public health workers, and act as a source of information on radiological health for other units of the Service, for other Federal agencies, and for State and local health agencies.

Surgeon General Leonard A. Scheele of the Public Health Service said the new branch was established "because of the recent rapid increase in the use of radioactive materials and radiation-producing machines in hospitals, industry, experimental laboratories and other places throughout the country."

"This in turn," Dr. Scheele said, "has created a need for some consideration in

—Continued on page 80a



STOMASEPTINE VAGINAL DOUCHE POWDER

In leukorrhea . . . trichomonas vaginalis . . . vaginitis

Dosage: Two tablespoonfuls dissolved in two quarts of comfortably hot water. Dispensed: 2, 6, 14 and 32 oz. jars.

Clinical trial supply sent on request.

STOMASEPTINE CORP., 150 WEST 28th STREET, NEW YORK 1, N.Y.



"INTERPINES"

GOSHEN, N. Y.

Phone 117

ETHICAL . . . RELIABLE . . . SCIENTIFIC

Neuropsychiatry

BEAUTIFUL — QUIET — HOMELIKE — WRITE FOR BOOKLET

Frederick W. Seward, M.D.—Director

Frederick T. Seward, M.D.—Resident Physician

Clarence A. Potter, M.D.—Resident Physician

Rx Riasol
THE PRESCRIPTION FOR
PSORIASIS

Thousands of physicians all over the U.S.A. are prescribing RIASOL for psoriasis. Their own clinical experience has convinced them that RIASOL offers great promise of therapeutic success in a very stubborn disease.

Clinical observations have shown that in most cases of psoriasis RIASOL brings about rapid fading of the scaly patches with eventual clearing of the skin. The incidence of recurrence has also been reduced by continuing local treatment after the lesions have disappeared.

RIASOL contains 0.45% mercury chemically combined with soaps, 0.5% phenol and 0.75% cresol in a washable, non-staining, odorless vehicle.

Apply daily after a mild soap bath and thorough drying. A thin, invisible, economical film suffices. No bandages necessary. After one week, adjust to patient's progress.

RIASOL is ethically promoted. Supplied in 4 and 8 fld. oz. bottles, at pharmacies or direct.

Mail coupon for your free clinical package. One trial will convince you of RIASOL'S value as an antipsoriatic.



Before Use of RIASOL



After Use of RIASOL

MAIL COUPON TODAY — TEST RIASOL YOURSELF



SHIELD LABORATORIES

12850 Mansfield Ave., Detroit 27, Mich.

Please send me professional literature and generous clinical package of RIASOL.

..... M.D. Street

City Zone State

Druggist Address

MT-2-50

RIASOL for PSORIASIS

NEWS AND NOTES

—Continued from page 78a

the Nation's public health program of the control of potential radiation hazards."

Dr. Scheele said that radioactive materials in use include radium and radioactive isotopes, such as radio-iodine, radio-iron, radio-phosphorous and radio-sodium. Radiation-producing machines, he said, include X-rays, fluoroscopes, cyclotrons, betatrons, and other atomic-particle accelerators.

New Device for Measuring Anesthetic Gas

Safer and more efficient use of anesthesia during surgical operations is promised by a simple new automatic device for determining the concentration of anesthetic gas in a patient's lungs.

Specifically, the "viscosity-effusion meter," as it is called, measures the concentration of anesthetic which the patient rebreathes, according to Dr. R. N. Harger,

professor of biochemistry in the Indiana University School of Medicine. Modern anesthetic machines conserve the anesthetic, which is exhaled and rebreathed over and over during an operation.

The machines have flow meters for measuring the rate at which a gas leaves the tank in which it has been stored, and also apparatus for regulating the introduction of liquid ether into the vaporizing chamber, but in the past there was no practical way of measuring the actual concentration of anesthetic vapor rebreathed by the patient.

"Since the level of such an anesthetic in the patient's blood is controlled by its concentration in the gas which he rebreathes, the anesthetist would like to know what per cent of ether, for example, is present in the lung air of his patient," Dr. Harger explained.

This simple, automatic device gives a continuous reading of the per cent of a volatile anesthetic in the gas rebreathed by the patient.



...to relieve the strain of CHRONIC IRREGULARITY

WHEN aberrations of the menses suggest that normal function has overstepped the bounds of physiologic limits—the physician is often confronted with a condition which proves highly distressing to the patient.

For such cases (as in amenorrhea, dysmenorrhea, menorrhagia and metrorrhagia), many physicians rely on Ergoapiol (Smith) with Savin as the product of choice. By its unique inclusion of all the alkaloids of ergot (prepared by hydroalcoholic extraction), and the presence of apiol and oil of savin—Ergoapiol (Smith) with Savin provides a balanced and sustained tonic action on the uterus, affording welcome relief in many functional catamenial disturbances. It produces a desirable hyperemia of the pelvic organs, stimulates smooth, rhythmic uterine contractions, and also serves as an efficient hemostatic and oxytocic agent. General dosage: 1 to 2 capsules 3 to 4 times daily.

Write for your copy of the new 20-page brochure
"Menstrual Disorders—Their Significance and Symptomatic Treatment"
Supplied only in ethical packages of 20 capsules.

ERGOAPIOL (Smith) with SAVIN

MARTIN H. SMITH COMPANY • 150 LAFAYETTE STREET, NEW YORK 13, N. Y.



Ethical protective
mark, "HSP" visible
when capsule is cut
in half or open.

CLASSIFIED ADVERTISEMENTS

Advertisements under the headings listed are published without charge for those physicians whose names appear on the **MEDICAL TIMES** mailing list of selected general practitioners. To all others the rate is \$3.50 per insertion for 30 words or less; each additional word 10c each.

WANTED

Assistants
Physicians
Locations
Equipment
Books

FOR SALE

Books
Equipment
Practices

FOR RENT

MISCELLANEOUS

CLASSIFIED ADVERTISING FORMS CLOSE 15th of PRECEDING MONTH. If Box Number is desired all inquiries will be forwarded promptly. Classified Dept., **MEDICAL TIMES**, 67 Wall St., New York 5, N. Y.

WANTED (Physicians, Assistants, etc.)

INTERNIST, full partnership, clinic. Qualified EKG and cardiology. Fluoroscopic and other diagnostic work in gastro-enterology. Southern town of 400,000 people. Box 212, Medical Times.

PARTNER, fully equipped office just off Park Avenue. Hours by arrangement. \$40.00 monthly. Box 201, Medical Times.

PHYSICIAN interested in ownership or association of sanitarium, N. Y. and Fla. license. Box 129, Medical Times.

WANTED (Equipment, etc.)

CAMBRIDGE ELECTROCARDIOGRAPH, used, good condition. Box 208, Medical Times.

LEITZ PHOTOELECTRIC COLORIMETER wanted, in good condition. Box 209, Medical Times.

MICROSCOPES, BINOCULAR, with or without objectives, condenser and eye pieces; either Spencer, or Zeiss LCGs or LCEs; research type micro-illuminator; Zeiss Miflex with telescope; Leitz Micro-Ikon. Give full description and price wanted. Box 210, Medical Times.

MEDICAL EQUIPMENT, used, wanted by physician, New York City. No dealers. Box 211, Medical Times.

WANTED (Miscellaneous)

SHAVING MUGS, depicting any type of occupation, particularly the medical, pharmacists, and morticians professions. Box 202, Medical Times.

PRACTICES (For sale)

GENERAL PRACTICE—grosses \$18,000 in 1949. South Texas community 4,000. Hospital facilities. Will sell for inventory. Reason: specializing. Box 206, Medical Times.

X-RAY—Bellevue model with Bucky and extra X-ray tubes. Good condition. Box 207, Medical Times.

—Continued on following page

MEDICAL TIMES, FEBRUARY, 1950

Watchword FOR WATCH-WATCHERS

For today's busy physician—"Folle"
First in First Aid" treatments
for burns, minor wounds, abrasions
in office, clinic or hospital.

CARRISULPHOL CO. 2100-14 Swiss Ave., Dallas, Texas

"You're invited to
request samples
and clinical data."

ANTISEPTIC — ANALGESIC

FOILLE

EMULSION — OINTMENT

For Restful Recuperation
Send your Patients to the

BRUNSWICK HOME

Brunswick Home, only an hour's ride from New York City in Amityville, L. I., offers ideal accommodations at modest rates for convalescents, post-operative, the aged and infirm and those with other chronic and nervous disorders. Physicians' treatments rigidly followed. Special, separate accommodations for women and backward children. Write for full information.

THE BRUNSWICK HOME

Broadway, Amityville, L. I.

Tel. Amity. 1700-01-02

Licensed by the N. Y. State Dept. of Mental Hygiene

UROPATHY

Relief
Sedation
Bacteriostasis



SEDURIN

Formula / Fluid oz.
Methenamine . . . 18 gr.
Sandalwood . . . 30 gr.
Saw Palmetto . . . 30 gr.
Zea 30 gr.

Alcohol 9%

Available on
prescription only,
in 8-oz. bottles.

FREE
SAMPLE

DRUG SPECIALTIES, INC.

218 Boyd Street, Los Angeles 54, Calif.

Professional Sample, Please:

M. D.

CLASSIFIED ADVERTISEMENTS

—Continued from preceding page

FOR SALE (Homes, Offices, etc.)

CONVALESCENT HOME, newly completely renovated, fully licensed. Capacity 28 beds, fully furnished. Location 30 miles from New York City. Good income, suitable for physician or registered nurse. Reason for selling—moving. Box 218, Medical Times.

EXAMINING ROOM FURNITURE. Good condition. New in storage at State College, Pa. Write to Dr. J. K. Dotterer, Sanford, N. C.

OFFICE AND HOME, ready for young man needing quick start. Immediate possession. Population 3,000, good school job. Pennsylvania. Box 220, Medical Times.

EQUIPMENT (For sale)

X-RAY TABLE and fluoro-tank, cassettes, hangers, gloves, apron and timer. L.F. short wave. Box 203, Medical Times.

ARTICULATE SKELETON AND SKULL, complete, with closet for same. Box 213, Medical Times.

EQUIPMENT (For Sale, Cont'd.)

COMBINATION X-RAY AND FLUOROSCOPE, 25 M.A. Cost \$1,300.00 with all accessories. Will sell whole outfit for \$600.00. Machine perfect. Box 213, Medical Times.

G.E. SNOOK X-RAY MACHINE with auto transformer rheostat, etc. G.E. double focus coolidge tube; G.E. universal tube 100 mx for fluoroscopy; tilt top table, fluoroscopic screen Potter-Bucky diaphragm. Good condition. Reasonable. Box 204, Medical Times.

ULTRA-VIOLET LAMP, practically new. Excellent condition. For quick sale, \$100.00. Box 205, Medical Times.

CARDIOTRON, excellent condition, reasonable. Reason for selling—restricting practice. Box 214, Medical Times.

BOULITTE STRING GALVANOMETER EKG, perfect condition in walnut cabinet, including carrying case for demountable chassis. \$100.00 or will trade for good B.M.R. Box 216, Medical Times.

COLLINS METABOLIC MACHINE, new, suction machine, Burdick rhythmic constrictor, Beck-Lee EKG portable. Box 217, Medical Times.

Thousands of Physicians rely on our Quality & Service . . .

• GET ACQUAINTED OFFER •

PROCAINE PENICILLIN G, 300,000 Units per cc. In Oil (96 Hour Type).....	10 cc Vial	\$2.90
TESTOSTERONE, Oil or Aqueous, 10 cc Vial—25 mgs. per cc.....	30 mg/cc	\$3.30
ESTROGENS NATURAL, Oil or Aqueous, 10,000 I.U. per cc.....	30 cc Vial	\$2.30
ESTROGENS NATURAL, Oil or Aqueous, 20,000 I.U. per cc.....	30 cc Vial	\$3.00
PYRIDOXINE-THIAMINE, 100 mgs. of each per cc (Nausea & Vomiting).....	10 cc Vial	\$3.00
VITAMIN E, Alpha-Tocopherol Acetate, 200 mgs. per cc.....	10 cc Vial	\$4.00
PROGESTERONE in Oil, 30 cc Vial—10 mgs. per cc, \$2.50.....	25 mgs. per cc	\$4.50
PROGESTERONE, Aqueous Solution, 25 mgs. per cc.....	30 cc Vial	\$4.50
LIVER INJECTION, U.S.P., 10 Units per cc.....	10 cc Vial	\$2.75
THIAMINE HYDROCHLORIDE, 300 mgs. per cc.....	30 cc Vial	\$4.90
METHYL TESTOSTERONE, 10 mgs. per Tablet.....	100 Tablets	\$5.00

—QUALITY AND POTENCY POSITIVELY GUARANTEED—

TERMS: Remittance with order, prepaid, or C. O. D. plus charges. Direct by mail only—subject to withdrawal without notice.

**Mail Your Order And
Remittance Today To**



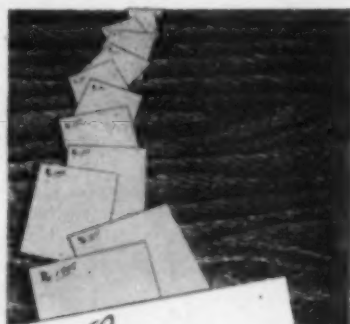
DEPT. RX 1045 EAST PARKWAY S.

MEMPHIS, TENNESSEE

MEDICAL TIMES, FEBRUARY, 1950

MEDICAL (advertisers index) TIMES
FEBRUARY, 1950

Abbott Laboratories	54a
Alphaden Co., The	24a
American Sterilizer Co.	14a
Ayerst, McKenna & Harrison ..	37a
Barnes Co., A. C.	8C
Barnes Sanitarium	76a
Baum Co., Inc., W. A.	20a
Becton-Dickinson & Co.	3a
Borchardt Malt Products Co.	60a
Bristol-Meyers Co.	6a, 52a, 73a
Brunswick Home	81a
Burroughs Wellcome & Co.	22a
Burton-Parsons & Co.	64a
Carbisulphol Co.	81a
Carnation Co.	36a
Chilcott Laboratories	31a
Ciba Pharmaceutical Products ..	43a
Crookes Laboratories, Inc.	62a
Doho Chemical Corp.	8a
Drug Products Co.	78a
Drug Specialties Co.	81a
Ex-Lax, Inc.	34a
Flint, Eaton & Co.	16a
Geigy Co., Inc.	65a
Glidden & Co., Otis E.	70a
Grant Chemical Co.	10a
Hanovia Chemical & Mfg. Co.	38a
Hoffmann-La Roche, Inc.	1FC
Hynson, Westcott & Dunning, Inc.	46a
Interpines	78a
Irwin, Neisler & Co.	17a
Ives-Cameron Co.	67a
Johnson & Johnson	23a
Kramers-Urban Co.	53a
Lakeside Laboratories, Inc.	26a, 27a
Lanteen Medical Laboratories ..	71a
Lavoris Co.	63a
Leeming & Co., Inc., Thes.	84a
MacGregor Instrument Co.	25a
Merck & Co., Inc.	48a
Morton Pharmaceuticals	82a
National Drug Co.	21a
National Electric Instrument Co.	69a
Neland Pharmaceutical Inc.	76a
Od Peacock Sultan Co.	66a
Parke, Davis & Co.	39a
Pearson Publishers, Romaine	77a
Professional Printing Co.	57a
Raymer Pharmacal Co.	61a
Research Medications, Inc.	108
Robins Co., Inc., A. H.	50a, 51a
Rystan Co., The	55a
Sandoz Pharmaceuticals, Inc.	59a
Schenley Laboratories, Inc.	19a, 45a
Schering Corp.	15a, 29a
Schmid, Inc., Julius	18a
Seck & Kade, Inc.	72a
Shield Laboratories	79a
Smith Co., Martin H.	80a
Smith, Kline & French Labs.	40a
Special Formula Corp.	49a
Special Milk Products, Inc.	83a
Squibb & Sons, E. R.	12a
Stomaseptine Corp.	75a
Talby-Nason Co.	74a
Tyree Chemist, Inc., J. S.	44a
Union Pharmaceutical Corp.	32a, 33a
Varick Pharmacal Co.	58a
Warner & Co., Inc., Wm. R.	42a
Warren-Teed Products, Inc.	18C
Westwood Pharmaceuticals	41a
Whittaker Laboratories	56a
Whittier Laboratories	35a, 47a, 63a
Wyeth, Inc.	4a



Rx 1950
Today, as in 1934 ...
When symptoms indicate

**Cow's Milk
Lactalbumin
Allergy**

prescribe
**Meyenberg®
Evaporated
Goat Milk**



Available all year
round at most drug
stores in 14-oz. cans.

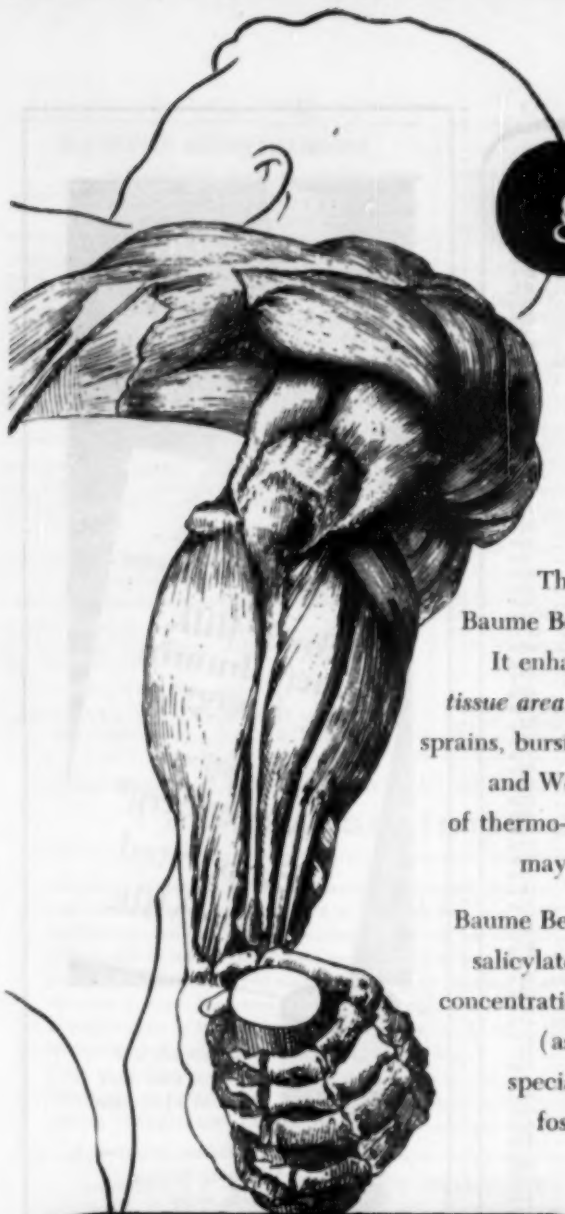
For further information,
formula feeding
cards, write

Special Milk Products, Inc.

Los Angeles 64
Since



California
1934



going deep

The "hyperkinemic" activity of Baume Bengué goes beneficially deep.

It enhances blood-flow *through the tissue area* in arthritis, myositis, muscle sprains, bursitis and arthralgia. As Lange and Weiner¹ determined by the use of thermo-needles, hyperkinemic effect may extend to a depth of 2.5 cm.

Baume Bengué also promotes systemic salicylate action. It provides the high concentration of 19.7% methyl salicylate (as well as 14.4% menthol) in a specially prepared lanolin base to foster percutaneous absorption.

Baume Bengué
ANALGESIQUE

1. Lange, K., and Weiner, D. J.
Invest. Dermat. 12:263 (May) 1949.

Theo. Leeming & Co Inc 155 E. 44th St., New York 17, N.Y.

Typhamide

A most effective local treatment
for OTITIS MEDIA and infections
of the EXTERNAL EAR

PROPYLENE GLYCOL bland,
non-toxic, fungistatic
and bactericidal
SULFANILAMIDE 5%
bactericidal and fungistatic
UREA 10% cleansing, bactericidal
CHLOROBUTANOL 3%
topical anesthetic

1/2 ounce dropper bottle

WARREN-TEED

Pharmaceuticals

THE WARREN-TEED PRODUCTS CO.
COLUMBUS 8 OHIO

**MAXIMUM
IRON EFFECTIVENESS**

...
**with minimum side-effects...
two essential considerations**

OVOFERRIN really delivers

the prescribed dosage
... then gains the
desired objective for
doctor and patient
because it is:

**in HYPOCHROMIC
ANEMIA**

- Wholly acceptable to the patient
- Easily and readily assimilable
- Virtually unaffected by gastric juices
- Its use entails no gastric upsets

OVOFERRIN the build-up without a let-down

Rx

MAINTENANCE DOSAGE

FOR ADULTS AND CHILDREN: One teaspoonful 2 or 3 times a day in water or milk.

Rx

THERAPEUTIC DOSAGE

ADULTS: One tablespoonful 3 or 4 times daily in water or milk.
CHILDREN: One to 2 teaspoonfuls 4 times daily in water or milk.

Made only by the

A. C. BARNES COMPANY • NEW BRUNSWICK, N. J.

"Ovoferrin" is a registered trademark, the property of A. C. Barnes Company



*Professional
sample
on request*